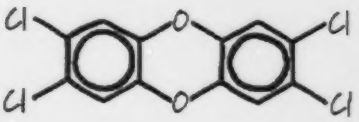
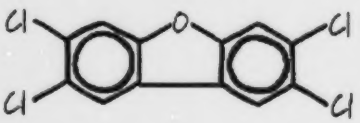
# *Inventory of Releases*

| | |
|---|---|
|  |  |
| Polychlorinated dibenzo-p-dioxins substituted in the 2,3,7,8 positions (PCDDs) | Polychlorinated dibenzofurans substituted in the 2,3,7,8 positions (PCDFs) |

***DRAFT - SECOND EDITION***

**Prepared by**

## *Environment Canada*

**October 2000**

Canada

101-00812/



## ACKNOWLEDGEMENT

Environment Canada would like to acknowledge the participation and input of all those who provided information for this report.

## INTRODUCTION

This report is an up-date of the Inventory of Releases of PCDDs/PCDFs report published in January 1999 and which is currently posted on the Greenlane of Environment Canada. It contains summary and detailed information currently available for individual anthropogenic sources.

The nature of the revisions is indicated on the summary table as well as on sector specific tables.

As new information becomes available, the inventory report will be up-dated.

***In addition to jurisdictions, all facilities generating PCDDs/PCDFs are encouraged to review this draft report and to submit relevant comments and corrections where appropriate, especially as it relates to missing information on concentration where test has been carried out.***

PCDDs/PCDFs have been added to the National Pollutants Release Inventory (NPRI) for the year 2000.

A number of sectors have been identified as priority sectors for which Canada-Wide Standards are being developed. These are identified in the report (please refer to Fig. 4). Other sectors may be identified for action in the future.

Because Hexachlorobenzene (HCB) has been added to the National Pollutants Release Inventory (NPRI), HCB release information has not been included in this document.

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## *Abbreviations*

| *Abbreviation* | *Explanation* | *Abréviation française* |
|---|---|---|
| CWS | Canada-wide standard | SPC |
| F | emission factor | F |
| LoQ | Level of quantification | Ndd |
| PCDDs/PCDFs | Polychlorinated dibenzo-p-dioxins substituted in the 2,3,7,8 positions and Polychlorinated dibenzofurans substituted in the 2,3,7,8 positions | PCDDs/PCDFs |
| SOP | strategic options process | POS |
| T | Test | T |
| TEQ/y | toxic equivalent quotient/y | FET/a |

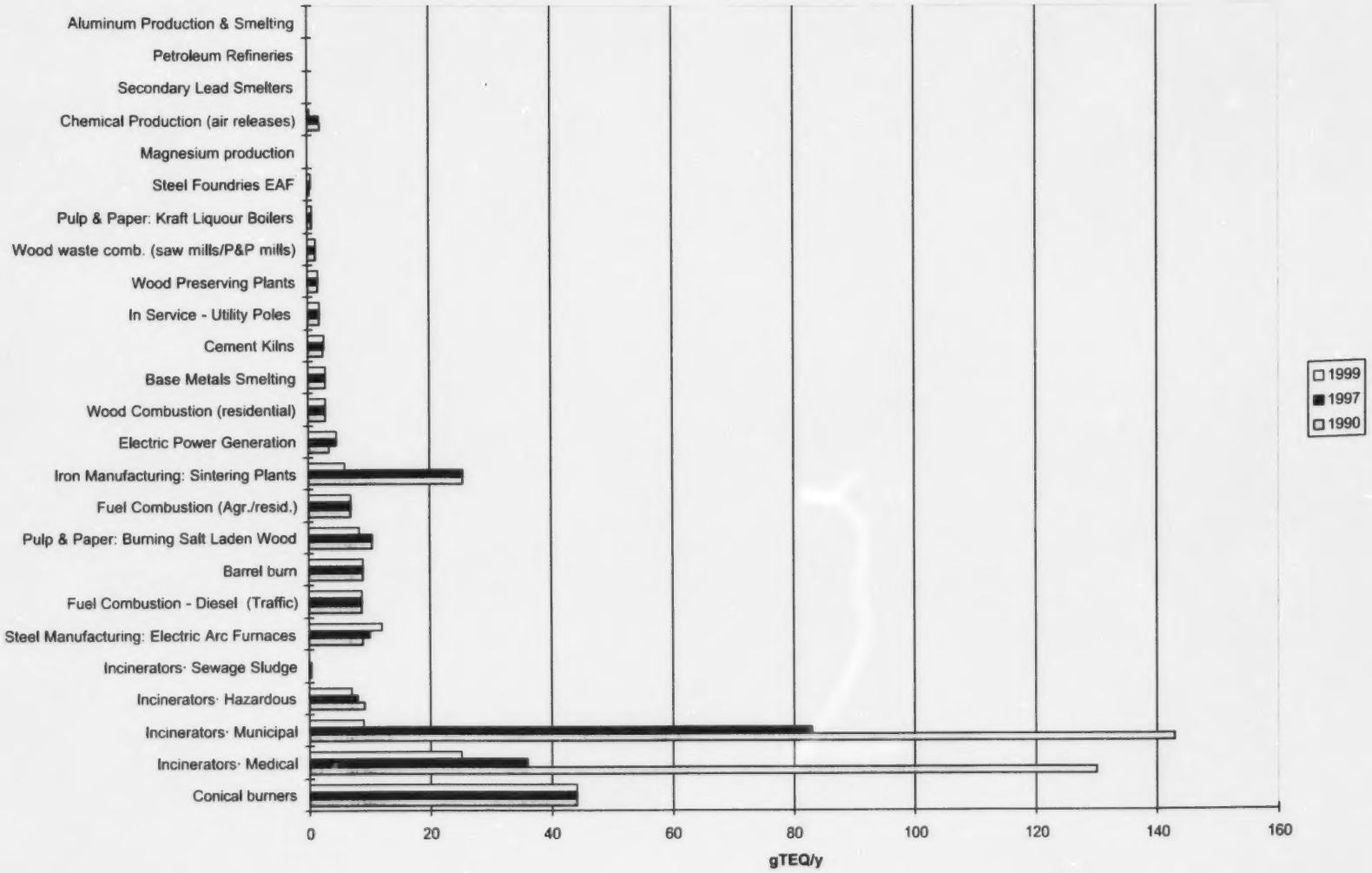



***Figure 1 - Sectoral Atmospheric Releases of PCDDs/PCDFs in g TEQ/y for 1990, 1997 & 1999***
***(Summary of available information; info to be developed for the 3 sectors on top of page)***

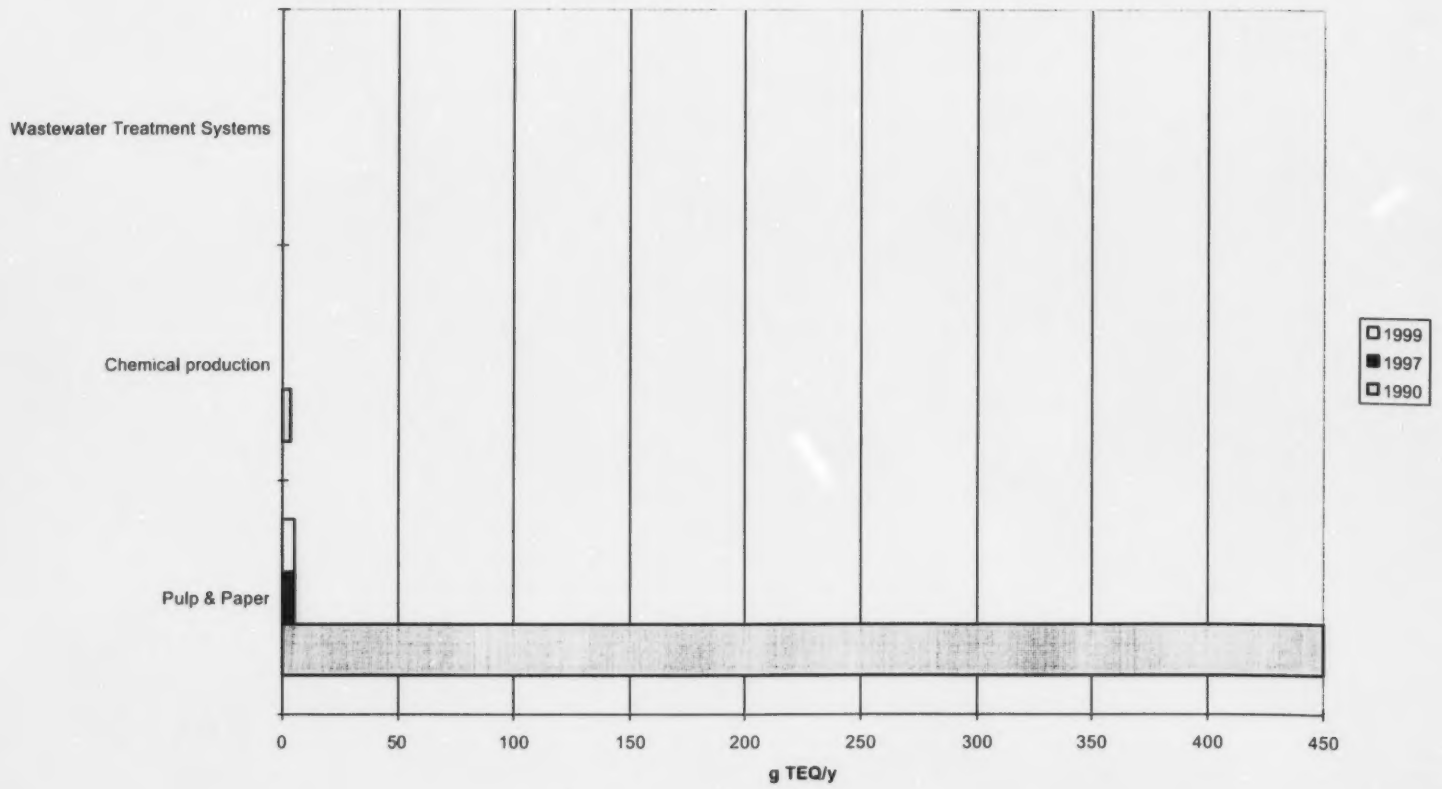



***Figure 2 - Sectoral Releases to Water of PCDDs/PCDFs in gTEQ/y for 1990, 1997 & 1999 (Summary of available information; wastewater treatment systems: info to be developed)***

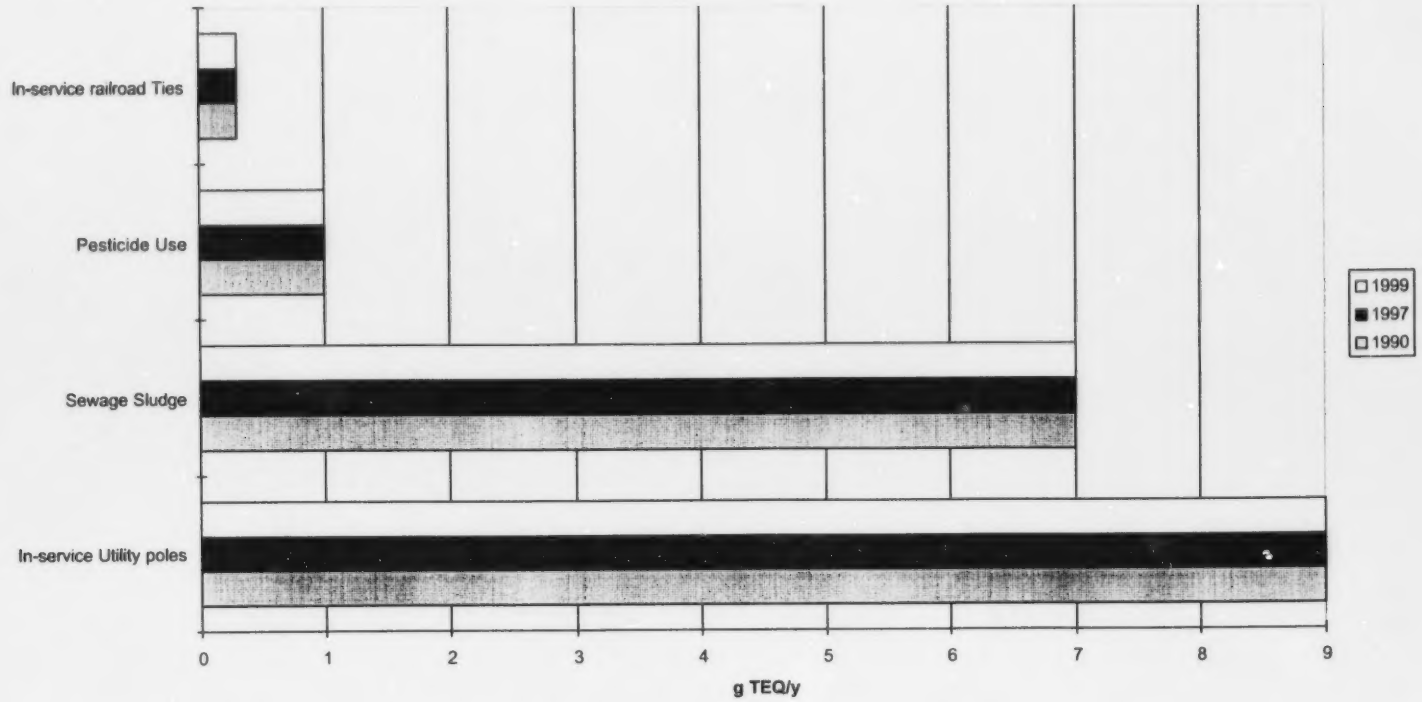



***Fig 3 - Sectoral Releases to Soil of PCDDs/PCDFs in g TEQ/y for 1990, 1997 & 1999***
***(Summary of available information)***

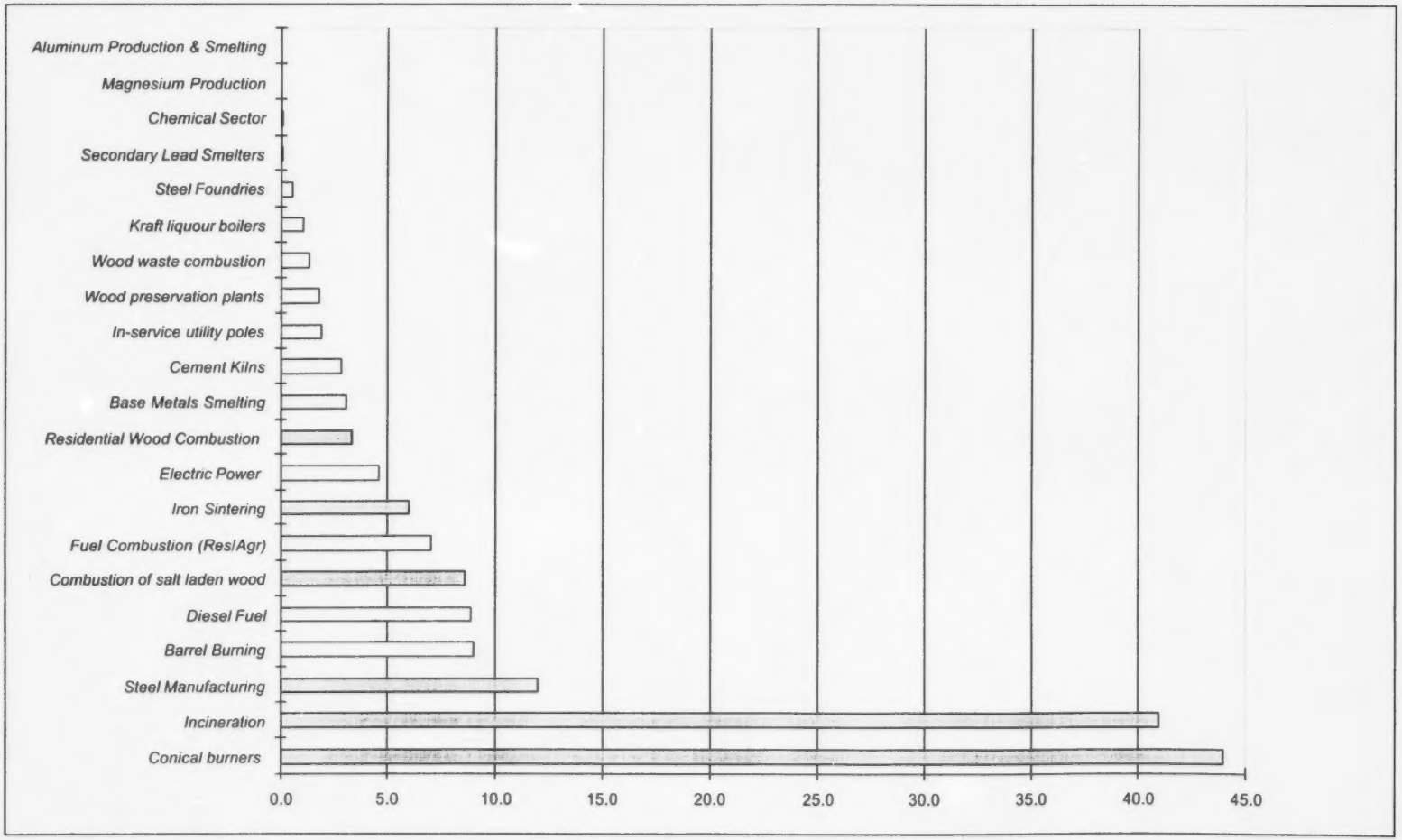



*Figure 4 - Sectoral Atmospheric Releases of PCDDs/PCDFs in g TEQ/y for 1999*
*(Summary of available information - blue bars represent sectors for which CWS are being developed)*

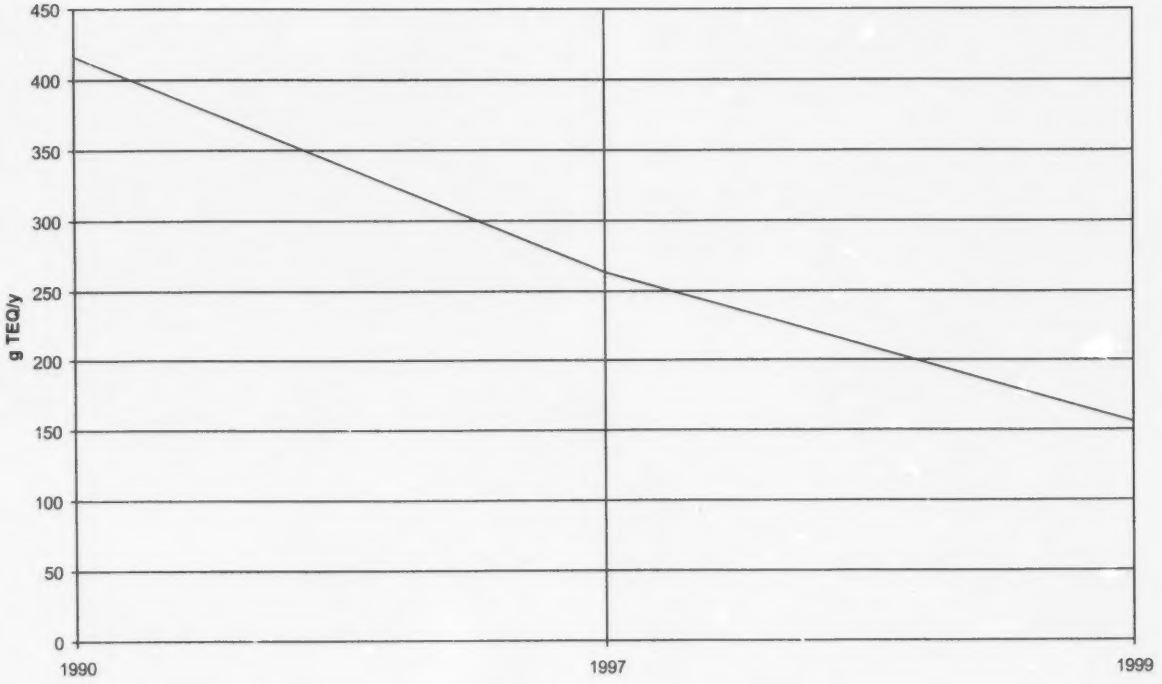



*Figure 5 - Total Atmospheric Releases from Canadian Anthropogenic Sources in 1990, 1997 & 1999 (Summary of available information)*

**Table 1 PCDDs/PCDFs Release Information with Percent Contribution and Cumulative Percent**

| *Source* | *Facilities Tested/ Total* | *TEQ in g/y 1990* | *1997* | *1999* | *% 1999* | *Cum. % 1999* | *Current Initiatives* | *Comments* |
|---|---|---|---|---|---|---|---|---|
| **RELEASES TO AIR** | | | | | | | | |
| Conical burners | factors | 44 | 44 | 44 | 28 | 28 | CWS 2001 | under review, study the feasibility of testing (Table-4) Range 10-75 |
| Waste Incineration (total) | | 282 | 127 | 41 | 26 | | | total for incineration |
| - Medical | | 130 | 36 | 25 | 16 | 44 | CWS 2000 | numbers increased due to use of revised factors |
| - Municipal | | 143 | 83 | 9 | 6 | 50 | CWS 2000 | |
| - Hazardous | 4/4 | 9 | 8 | 7 | 4 | 55 | CWS 2000 | numbers increased due to new test results included |
| Sewage Sludge | 4/9 | 0 | 0 | 0 | 0 | 55 | CWS 2000 | |
| Steel Manuf., Electric Arc Furnaces | 2/13 | 9 | 10 | 12 | 8 | 62 | CWS & SOP | CWS expected '01; 2 plants tested & reported, 1 tested, report to follow |
| Fuel Combustion - Diesel (Traffic) | factors | 9 | 9 | 9 | 6 | 68 | | |
| Barrel burn | factors | 9 | 9 | 9 | 6 | 74 | | not included previously, average of factors, under review |
| Pulp & Paper: Burning Salt Laden Wood | 9/10 | 11 | 11 | 8 | 5 | 79 | CWS 2000 | |
| Fuel Combustion (Agriculture/residential) | factors | 7 | 7 | 7 | 4 | 84 | | |
| Iron Manufacturing: Sintering Plants | 2/2 | 25 | 25 | 6 | 4 | 87 | CWS & SOP | CWS expected for 2001 |
| Electric Power Generation | 6/29 | 3 | 5 | 5 | 3 | 90 | | multi-pollutant initiative underway |
| Wood Combustion (residential) | test | 3 | 3 | 3 | 2 | 92 | CWS 2001 | decreased from 36 [revised fuel consumption and factor based on test] |
| Base Metals Smelting | 2/5 | 3 | 3 | 3 | 2 | 94 | SOP | new data included |
| Cement Kilns | 15/28 | 3 | 3 | 3 | 2 | 96 | | |
| In Service - Utility Poles | n.a. | 2 | 2 | 2 | 1 | 97 | SOP | |
| Wood Preserving Plants | 0/12 | 2 | 2 | 2 | 1 | 98 | SOP | |
| Wood waste comb. (saw mills/P&P mills) | factors | 1 | 1 | 1 | 1 | 99 | | |
| Pulp & Paper: Kraft Liquour Boilers | 42 | 1 | 1 | 1 | 0 | 100 | | |
| Steel Foundries EAF | 0/5 | 0 | 1 | 1 | 0 | 100 | | |
| Magnesium production | 1/1 | 0 | 0 | 0 | 0 | 100 | | new listing; + Magnola to start production in 2000 |
| Chemical Production (air releases) | 2/6 | 2 | 2 | 0 | 0 | 100 | | |
| Secondary Lead Smelters | 0/5 | 0 | 0 | 0 | 0 | 100 | | |
| Petroleum Refineries | | | | | | | | release info to be developed |
| Aluminum Production & Smelting | | | | | | | | release info to be developed |
| *Sub-total* | | *416* | *264* | *156* | *100* | | | |
| **RELEASES TO WATER** | | | | | | | | |
| Pulp & Paper | 42/42 | 450 | 5 | 5 | | | | |
| Wastewater Treatment Systems | | | | | | | | release info to be developed |
| Chemical production | 8/8 | 3.7 | 0 | 0 | | | | |
| *Sub-total* | | *454* | *5* | *5* | | | | |
| **RELEASES TO SOIL** | | | | | | | | |
| In-service Utility poles | | 9 | 9 | 9 | | | | |
| Sewage Sludge | | 7 | 7 | 7 | | | | new information listing for this sector |
| In-service railroad Ties | | 0.3 | 0.3 | 0.3 | | | | release numbers have revised downward based on the final SOR |
| Pesticide Use | | 1 | 1 | 1 | | | | PMRA provided results of their survey |
| *Sub-total* | | *17.3* | *17.3* | *17.3* | | | | |
| *Releases to Air, Water & Soil* | | *888* | *286* | *179* | | | | |
| **PCDDs/PCDFs in PRODUCTS** | | | | | | | | |
| Pulp & Paper, ash from salt laden wood | 9/10 | 137 | 137 | 105 | | | | priority sector : CWS |
| Out-of-service (landfilled) treated wood | | 36 | 36 | 36 | | | | Implement Recommendations of SOP |
| *Sub-total* | | *173* | *173* | *141* | | | | |

## Table 2 — PCDDs/PCDFs Atmospheric Release Information and Percent Contribution per Sector per Jurisdiction

| Sector \ Province | NF | PE | NB | NS | QC | ON | MB | SK | AB | BC | NW | YK | NU | Canada | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Atmospheric Releases*** | | | | | | | | | | | | | | | | |
| Conical burners (municipal) | 43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.94 | | | 44 | 28 |
| **Incineration** | | | | | | | | | | | | | | | | |
| *Medical Waste* | 0.00 | 0.10 | 0.05 | 0.00 | 0.00 | 13.36 | 8.80 | 0.64 | 0.01 | 0.00 | 1.28 | 0.07 | 0.22 | | 25 | 16 |
| *Municipal Waste* | 0.00 | 0.09 | 0.00 | 0.00 | 0.03 | 2.15 | 0.00 | 0.50 | 0.00 | 0.01 | 0.00 | 0.00 | | 6.00 | 9 | 6 |
| *Hazardous Waste* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 7 | 5 |
| *Sewage Sludge* | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Steel Manufacturing | 0.00 | 0.00 | 0.00 | 0.40 | 5.09 | 4.18 | 0.63 | 1.13 | 0.67 | 0.00 | 0.00 | 0.00 | | | 12 | 8 |
| Diesel Fuel | 0.17 | 0.05 | 0.27 | 0.31 | 1.59 | 3.11 | 0.33 | 0.37 | 1.38 | 0.81 | 0.01 | 0.05 | | | 9 | 6 |
| Barrel Burning | 0.28 | 0.08 | 0.43 | 0.47 | 2.46 | 2.28 | 0.38 | 0.46 | 0.77 | 0.93 | 0.03 | 0.01 | | | 9 | 5 |
| Combustion of salt laden wood | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.60 | 0.00 | 0.00 | | | 9 | 5 |
| Fuel Comb.(Resid/Agr.) | 0.02 | 0.01 | 0.03 | 2.20 | 0.19 | 0.11 | 0.00 | 0.00 | 4.40 | 0.02 | 0.00 | 0.00 | | | 7 | 4 |
| Iron Sintering | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 6 | 4 |
| Electric Power Generation | 0.00 | 0.00 | 0.36 | 0.75 | 0.00 | 0.69 | 0.02 | 0.87 | 1.87 | 0.00 | 0.00 | 0.00 | | | 5 | 3 |
| Residential Wood Combustion | 0.19 | 0.06 | 0.33 | 0.25 | 1.07 | 0.84 | 0.07 | 0.04 | 0.13 | 0.30 | 0.01 | 0.00 | | | 3 | 2 |
| Base Metals Smelting | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 2.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 3 | 2 |
| Cement Kilns | 0.03 | 0.00 | 0.00 | 0.04 | 0.80 | 0.78 | 0.00 | 0.09 | 0.80 | 0.39 | 0.00 | 0.00 | | | 3 | 2 |
| In-service utility poles | 0.00 | 0.00 | 0.10 | 0.10 | 0.50 | 0.70 | 0.10 | 0.10 | 0.20 | 0.20 | 0.00 | 0.00 | | | 2 | 1 |
| Wood preservation plants | 0.00 | 0.00 | 0.00 | 0.10 | 0.80 | 0.30 | 0.00 | 0.00 | 0.10 | 0.50 | 0.00 | 0.00 | | | 2 | 1 |
| Wood waste combustion | 0.06 | 0.01 | 0.14 | 0.08 | 0.34 | 0.20 | 0.01 | 0.02 | 0.08 | 0.31 | 0.00 | 0.00 | | | 1 | 1 |
| Kraft liquour boilers | 0.01 | 0.00 | 0.10 | 0.04 | 0.15 | 0.07 | 0.01 | 0.01 | 0.06 | 0.12 | 0.00 | 0.00 | | | 1 | 0 |
| Steel Foundries | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 | 0.09 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | 0 | 0 |
| Magnesium production | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Secondary Lead Smelters | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Chemical Sector | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Petroleum refineries | | | | | | | | | | | | | | | | |
| Aluminum Production & Smelting | | | | | | | | | | | | | | | | |
| Total gTEQ/year | 44 | 0 | 2 | 4.4 | 14 | 45 | 10 | 4 | 11 | 12 | 1 | 1 | 0 | 6 | 155 | |
| percent of total | 25 | 0 | 1 | 3 | 8 | 26 | 6 | 2 | 6 | 7 | 1 | 1 | 0 | 3 | | 100 |
| ***Releases to Soil*** | | | | | | | | | | | | | | | | |
| Utility Poles | 0.00 | 0.00 | 0.46 | 0.46 | 2.30 | 3.30 | 0.46 | 0.46 | 0.93 | 0.93 | | | | | 9.30 | |
| Sewage sludge use | 0.00 | 0.03 | 0.03 | 0.02 | 0.46 | 2.55 | 0.63 | 0.38 | 1.00 | 1.87 | | | | | 6.95 | |
| Pesticide uses | | | | | | | | | | | | | | | 1 | |

**Table 3** **Largest Sources of Atmospheric Releases of PCDDs/PCDFs in Canada, in 1999 (above 0.5 g TEQ/y)**

| Category | Facility Name | City | Province | g TEQ /y | T/F | Comment |
|---|---|---|---|---|---|---|
| Hazardous Waste Incinerators | Ontario Hydro | Tiverton | Ontario | 6.80 | T | CWS - Incinerators |
| Iron-Sintering | Stelco | Hamilton | Ontario | 6.00 | T'99 | CWS - Sintering |
| Steel-Electric Arc Furnace | Sidbec-Dosco | Contrecoeur | Québec | 3.69 | F | CWS for Steel |
| P&P: Salt Laden Wood | FCCL | Elk Falls | British Columbia | 3.60 | T | CWS for boilers |
| Base Metals Smelting | Falconbridge | Sudbury | Ontario | 2.90 | T | SOP |
| P&P: Salt Laden Wood | FCCL | Crofton | British Columbia | 2.64 | T | CWS for boilers |
| Municipal Incinerator | Hamilton-Wentworth Solid waste | Hamilton | Ontario | 1.93 | T'99 | CWS - Incinerators |
| Steel-Electric Arc Furnace | IPSCO Inc. | Regina | Saskatchewan | 1.13 | T | CWS for Steel |
| Steel-Electric Arc Furnace | Stelco-Master Ltee. | Contrecoeur | Québec | 1.13 | F | CWS for Steel |
| Steel-Electric Arc Furnace | Ivaco Inc. | L'Orignal | Ontario | 0.92 | F | CWS for Steel |
| Steel-Electric Arc Furnace | Slater Steel, Hamilton Specialty Bar | Hamilton | Ontario | 0.82 | F | CWS for Steel |
| P&P: Salt Laden Wood | Howe Sound P&P | Pt. Mellon | British Columbia | 0.80 | T | CWS for boilers |
| Steel-Electric Arc Furnace | Co-Steel Inc. (LASCO) | Whitby | Ontario | 0.79 | F | CWS for Steel |
| Steel-Electric Arc Furnace | AtlaSteel Ltd. | Edmonton | Alberta | 0.67 | F | CWS for Steel |
| Steel-Electric Arc Furnace | Gerdau Courtice Steels | Cambridge | Ontario | 0.66 | F | CWS for Steel |
| Steel-Electric Arc Furnace | Gerdau MRM | Selkirk | Manitoba | 0.63 | F | CWS for Steel |
| Hazardous Waste Incinerators | Safetykleen (prev. Laidlaw) | Corruna | Ontario | 0.59 | T | CWS - Incinerators |
| **Total of Above** | | | | **35.7** | | |

**Table 4** **PCDDs/PCDFs Atmospheric Releases from Conical Burners**

| *Province* | *Facility Name* | *# of facilities* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Newfoundland* | Low Temp. Conical (Teepee) Burners | 45 | 42.9 | 42.9 | 42.9 | | F | range between 10.9 and 74 9 g TEQ/y (based on emission factors) |
| *Yukon* | Landfill Trench and Burn | 24 | 0.94 | 0.94 | 0.94 | | F | based on emission factors |
| | **Total Canada** | | ***44*** | ***44*** | ***44*** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***CWS expected in 2001***

***Release number for NF has been revised due to the use of a range instead of a single value***

**Table 5 a** **PCDDs/PCDFs Atmospheric Releases from Medical Incinerators**

| Province | Faciiity Name | # Hospital Incinerators | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | Biseker | | 0.02 | 0 | 0.0001 | 6 | T '98 | biomedical & non-haz. waste |
| *British Columbia* | | 0 | 25 | 1.50 | 0 | | F | **all currently closed** |
| *Manitoba* | | 35 | 42 | 10 | 9 | 126000 | F | 22 incinerators closed in '97, |
| *New Brunswick* | | 3 | 7 | 3 | 0.1 | 1610 | F | Factors (US EPA) |
| *Newfoundland* | | 8 | 5 | 1 | 0 | 126000 | F | 6 incinerators closed in '97 |
| *Northwest Territories* | | 5 | 1 | 1 | 1.3 | 126000 | F | Factors (Ontario study) |
| *Nova Scotia* | | 2 | 3 | 1 | 0 | | | refer to Table 5-b |
| *Nunavut* | | 1 | 0 | 0 | 0.2 | 126000 | F | Factors (Ontario study) |
| *Ontario* | | 56 | 39 | 15 | 14 | 126000 | F | Factors (Ontario study) |
| *Prince Edouard Island* | | 1 | 0.50 | 0.20 | 0.1 | 126000 | F | Factors (Ontario study) |
| *Québec* | *[Système de Rebuts Médicaux]* | *Gatineau* | 4.9 | 0 | 0 | | T | **closed early '97** |
| *Saskatchewan* | | 8 | 2 | 2 | 0.6 | 126000 | F | Factors (Ontario study) |
| *Yukon* | | 1 | 0.50 | 1 | 0.1 | 126000 | F | Factors (Ontario study) |
| | ***Total Canada*** | ***130*** | ***36*** | ***25*** | | | | |
| | | | | ***LoQ*** | | ***32*** | | |

***CWS approved in 2000*** ***Proposed CWS = 80 pg/m$^3$***

***NOTE: The total release from this sector has significantly increased due to revisions to the emission factor previously used (25000 pg/m$^3$) and air flow.***

**Table 5 b** **PCDDs/PCDFs Atmospheric Releases from Municipal Waste Incinerators**

| *Province* | *Facility Name* | *City or incinerator* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | Wainwright Regional Incinerator Authority | Wainwright | | 0.01 | 0.001 | 27 | T '99 | medical/municipal waste |
| | **Sub-total for Alberta** | | **0** | **0.01** | **0.00** | | | |
| *British Columbia* | Cowichan Valley Regional District | Duncan | 4.70 | 4.70 | 0.00 | | F | **closed end of '98** |
| | Ladysmith | Ladysmith | 1.60 | 1.60 | 0.00 | | F | **closed end of '98** |
| | Lake Cowichan | Lake Cowichan | 1.30 | 1.30 | 0.00 | | F | **closed end of '98** |
| | District of Tumbler Ridge | Tumbler Ridge | 1.01 | 1.01 | 0.00 | | F | **currently closed** |
| | GVRD Burnaby Incinerator | Burnaby | 0.03 | 0.03 | 0.01 | **5** | T '99 | |
| | **Sub-total for British Columbia** | | **8.64** | **8.64** | **0.01** | | | |
| *Federal Facilities* | Federal Facilities [NS] | 5 | 2.10 | 0.44 | 0.24 | 126000 | F | 38 incinerators in 1990 |
| | Federal Facilities [ON] | 16 | 3.34 | 1.96 | 2.71 | 126000 | F | 46 incinerators in 1990 |
| | Federal Facilities [AB] | 11 | 1.70 | 0.95 | 0.80 | 126000 | F | 35 incinerators in 1990 |
| | Federal Facilities [BC] | 7 | 1.56 | 0.50 | 0.50 | 126000 | F | 34 incinerators in 1990 |
| | Federal Facilities [MB] | 7 | 0.70 | 0.44 | 0.30 | 126000 | F | 13 incinerators in 1990 |
| | Federal Facilities [NF] | 6 | 0.90 | 0.43 | 0.65 | 126000 | F | 15 incinerators in 1990 |
| | Federal Facilities [NT] | 4 | 0.90 | 0.40 | 0.28 | 126000 | F | 16 incinerators in 1990 |
| | Federal Facilities [QC] | 3 | 0.90 | 0.20 | 0.13 | 126000 | F | 17 incinerators in 1990 |
| | Federal Facilities [SK] | 3 | 0.50 | 0.20 | 0.09 | 126000 | F | 16 incinerators in 1990 |
| | Federal Facilities [NB] | 2 | 0.30 | 0.09 | 0.05 | 126000 | F | 7 incinerators in 1990 |
| | Federal Facilities [PE] | 0 | 0.10 | 0.00 | 0.00 | | | 2 incinerators in 1990 |
| | Federal Facilities [YK] | 0 | 0.06 | 0.00 | 0.00 | | | 2 incinerators in 1990 |
| | **Sub-total for Federal facilities*** | | **13.06** | **5.61** | **5.75** | | | 241 incinerators in 1990 |
| *Nova Scotia* | County of Cape Breton MSW | Sydney | 5.30 | 0.01 | 0.00 | **1.2** | T '00 | medical/municipal waste |
| | Annapolis City & Crisp Road | Annapolis County | 5.15 | 0.00 | 0.00 | 0 | F | **currently closed** |
| | Annapolis City & Graywood | Annapolis County | 7.32 | 0.00 | 0.00 | 0 | F | **currently closed** |
| | Lunenburg 1 | Whynotts Settlement | 7.03 | 0.00 | 0.00 | | F | **currently closed** |

**Table 5 b** **PCDDs/PCDFs Atmospheric Releases from Municipal Waste Incinerators (Cont.)**

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| | Shelburne | West Green harbour | 1.03 | 0.00 | 0.00 | 0 | F | **currently closed** |
| | Cumberland City | Spencers island | 0.14 | | 0.00 | 0 | F | **currently closed** |
| | Lunenburg 2 | Whynotts Settlement | 13.20 | | 0.00 | 0 | F | **currently closed** |
| | Municipal District of St-Mary's County | Guysborough | 0.94 | | 0.00 | 0 | F | **currently closed** |
| | **Sub-total for Nova Scotia** | | **40.11** | **0.01** | **0.00** | | | |
| *Ontario* | Hamilton-Wentworth Solid waste | Hamilton | 4.00 | 4.00 | 1.93 | 1725 | T '99 | CWS |
| | Peel resource Recovery Inc. | Brampton | 0.29 | 0.22 | 0.11 | 150 | T '98 | CWS |
| | Victoria Hospital | London | 0.09 | 0.09 | 0.09 | | T | CWS |
| | General Motors | Oshawa | 0.01 | 0.01 | 0.02 | 68 | T '97 | CWS |
| | 3M Canada Ltd | London | 0.00 | 0.00 | 0.00 | | | **closed '93** |
| | **Sub-total for Ontario** | | **4.40** | **4.32** | **2.15** | | | |
| *Prince Edouard Island* | PEI EFW Facility | Parkdale | 0.62 | 0.62 | 0.09 | **25** | T '98 | |
| | **Sub-total for PEI** | | **0.62** | **0.62** | **0.09** | | | |
| *Québec* | Régie intermunicipale de gestion des déchets | ***Levis*** | 61.80 | 61.80 | 0.001 | **3** | T '99 | ***upgrade completed*** |
| | MRC des Iles de la madelaine | Iles de la Madelaine | 1.72 | 1.72 | 0.00 | | F | |
| | Quebec Urban Community EFW | Quebec City | 0.02 | 0.02 | 0.02 | **24** | T '94 | |
| | Montreal Urban Community EFW | Montreal | 12.00 | 0.00 | 0.00 | 0 | T | **closed '93** |
| | **Sub-total for Quebec** | | **75.54** | **63.54** | **0.02** | | | |
| *Saskatchewan* | Watrous Union Hospital | | 0.14 | 0.14 | 0.14 | 126000 | F | medical/municipal waste |
| | Kamsack Union Hospital | | 0.10 | 0.10 | 0.10 | 126000 | F | medical/municipal waste |
| | Canora Union Hospital | | 0.02 | 0.02 | 0.02 | 126000 | F | medical/municipal waste |
| | **Sub-total for Saskatchewan** | | **0.26** | **0.26** | **0.26** | | | |

**Table 5 b** **PCDDs/PCDFs Atmospheric Releases from Municipal Waste Incinerators (Cont.)**

| Province | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. | TIF | Comment pg/m$^3$ |
|---|---|---|---|---|---|---|
| **Total for Canada** | **143** | **83** | **9** | | | |
| | | | | | | |
| ** Factor for federal incinerators has been revised upward* | | | *LoQ* | *32* | | |

***CWS approved in 2000*** ***CWS = 80 pg/m$^3$***

**Table 5 c** **PCDDs/PCDFs Atmospheric Releases from Hazardous Waste Incinerators**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | Special Waste Treatment (C.E. Raymond) | Swan Hills | 0.5 | 0.5 | 0.0 | | T | **closed indefinitely Feb. '98** |
| | Special Waste Treatment (F.B. Davis) | Swan Hills | | 0.0 | 0.0 | 389 | T | test in '99 |
| | **Sub-total for Alberta** | | **0.5** | **0.5** | **0.0** | | | |
| *Ontario* | Ontario Hydro | Tiverton | 6.8 | 6.8 | 6.8 | 177000 | T | **release number revised in 2000, from 0.5 g TEQ/y** |
| | Safetykleen (prev. Laidlaw Env. Services) | Corruna | 0.6 | 0.6 | 0.6 | 770 | T | |
| | Garey Stacey | Grafton | 0.0 | 0.0 | 0.0 | 170 | | |
| | Material resource Recovery | Cornwall | 0.0 | 0.0 | 0.0 | 23 | | |
| | **Sub-total for Ontario** | | **7.4** | **7.4** | **7.4** | | | |
| *Québec* | Laidlaw Env. Services | Mercier | 0.9 | 0.0 | 0.0 | 65 | T | test in '95 |
| | Bennett | St-Ambroise | 0.0 | 0.0 | 0.0 | 42 | | |
| | **Sub-total for Quebec** | | **0.9** | **0.0** | **0.0** | | | |
| | **Total for Canada** | | **9** | **8** | **7** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***CWS approved in 2000*** ***CWS = 80 pg/m³***

**Table 5 d** **PCDDs/PCDFs Atmospheric Releases from Sewage Sludge Incinerators**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* | | | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Ontario* | Corp. of the City of London | London | 0.09 | 0.09 | 0.00 | 16 | T | |
| | Main Treatment Plant (Ashbridge's Bay) | Toronto | 0.07 | 0.07 | 0.06 | 87 | T | scheduled to shut down 31/12/00 |
| | Lakeview Wastewater (Peel) | Mississauga | 0.04 | 0.04 | 0.00 | 2 | T | |
| | Duffin Creek | Pickering | 0.03 | 0.03 | 0.00 | 23 | T | |
| | Highland Creek Sewage Treatment Plant | Scarborough | 0.02 | 0.02 | 0.02 | 93 | T | |
| | Woodward Ave. Wastewater Treatment Plant | Hamilton | 0.02 | 0.00 | 0.00 | | F | **closed in '96** |
| | **Sub-total for Ontario** | | **0.26** | **0.24** | **0.08** | | | |
| *Québec* | Centre d'épuration de la rive sud | Longueil | 0.01 | 0.01 | 0.01 | 127 | F | |
| | CUM station d'épuration des eaux usées | Montreal | 0.01 | 0.01 | 0.02 | 42 | F | |
| | **Sub-total for Quebec** | | **0.02** | **0.02** | **0.03** | | | |
| *Saskatchewan* | J.C. Oliver Pollution Control Center | Prince Albert | 0.00 | 0.00 | 0.00 | 0 | F | **closed in '98** |
| | **Sub-total for Saskatchewan** | | **0.00** | **0.00** | **0.00** | | | |
| | **Total for Canada** | | ***0.3*** | ***0.3*** | ***0.1*** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***CWS approved in 2000*** ***CWS = 80 pg/m³***

**Table 6** **PCDDs/PCDFs Atmospheric Releases from Steel Manufacturing - Electric Arc Furnaces**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99[1] | *Conc pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | AtlaSteel Ltd. | Edmonton | 0.35 | 0.60 | 0.67 | 260 | F | |
| | Western Steel Ltd. | Calgary | 0.29 | 0.00 | 0.00 | | F | **closed** |
| | **Sub-total for Alberta** | | **0.64** | **0.60** | **0.67** | | | |
| *Manitoba* | Gerdau MRM | Selkirk | 0.54 | 0.62 | 0.63 | 260 | F | |
| | **Sub-total for Manitoba** | | **0.54** | **0.62** | **0.63** | | | |
| *Nova Scotia* | Sydney Steel Corporation | Sydney | 0.50 | 0.20 | 0.40 | 100 | F | |
| | **Sub-total for Nova Scotia** | | **0.50** | **0.20** | **0.40** | | | |
| *Ontario* | Dofasco Inc. | Hamilton | 0.00 | 1.20 | 0.5 | 50 | **T'99** | revised numbers based on test result |
| | Ivaco Inc. | L'Orignal | 0.78 | 0.88 | 0.92 | 260 | F | |
| | Slater Steel, Hamilton Specialty Bar | Hamilton | 0.62 | 0.74 | 0.82 | 260 | F | |
| | Co-Steel Inc. (LASCO) | Whitby | 1.62 | 0.70 | 0.79 | 100 | F | |
| | Gerdau Courtice Steels | Cambridge | 0.50 | 0.54 | 0.66 | 260 | F | |
| | Atlas Specialty Steels | Welland | 0.30 | 0.16 | 0.49 | 260 | F | |
| | **Sub-total for Ontario** | | **3.82** | **4.22** | **4.18** | | | |
| *Québec* | Sidbec-Dosco | Contrecoeur | 1.62 | 1.95 | 3.69 | 260 | F | |
| | Stelco-Master Ltee. | Contrecoeur | 0.78 | 1.08 | 1.13 | 260 | F | |
| | Atlas Stainless Steel | Tracy | 0.14 | 0.16 | 0.27 | 260 | F | |
| | **Sub-total for Quebec** | | **2.54** | **3.19** | **5.09** | | | |
| *Saskatchewan* | IPSCO Inc. | Regina | 1.01 | 1.41 | 1.13 | 276[2]<br>62[3] | **T'99** | revised numbers based on test result |
| | **Sub-total for Saskatchewan** | | **1.01** | **1.41** | **1.13** | | | |
| | **Total for Canada** | | **9.1** | **10.2** | **12.1** | ***32*** | ***LoQ*** | |
| | | | | | | | ***CWS expected in 2001*** | |

[1] Release estimates for 1999 are based on 1998 production estimates
[2] "Procede"Air Baghouse exhaust stack
[3] "Wheelabrator" Baghouse exhaust stack

**Table 7** **PCDDs/PCDFs Atmospheric Releases from Diesel (Traffic)**

| Province | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|
| Alberta | 1.4 | 1.4 | 1.4 | | F | |
| British Columbia | 0.8 | 0.8 | 0.8 | | F | |
| Manitoba | 0.33 | 0.33 | 0.33 | | F | |
| New Brunswick | 0.27 | 0.27 | 0.27 | | F | |
| Newfoundland | 0.17 | 0.17 | 0.17 | | F | |
| Northwest Territories | 0.01 | 0.01 | 0.01 | | F | |
| Nova Scotia | 0.31 | 0.31 | 0.31 | | F | |
| Ontario | 3.10 | 3.10 | 3.10 | | F | |
| Prince Edouard Island | 0.05 | 0.05 | 0.05 | | F | |
| Québec | 1.99 | 1.99 | 1.99 | | F | |
| Saskatchewan | 0.37 | 0.37 | 0.37 | | F | |
| Yukon | 0.05 | 0.05 | 0.05 | | F | |
| Nunavut | | | | | | |
| **Total for Canada** | **8.9** | **8.9** | **8.9** | | | |
| | | | ***LoQ*** | ***32*** | | |

***No changes from original report (Jan.'99)***

**Table 8** **PCDDs/PCDFs Atmospheric Releases from Barrel Burning**

| Province | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|
| Alberta | 0.77 | 0.77 | 0.77 | | F | |
| British Columbia | 0.93 | 0.93 | 0.93 | | F | |
| Manitoba | 0.38 | 0.38 | 0.38 | | F | |
| New Brunswick | 0.43 | 0.43 | 0.43 | | F | |
| Newfoundland | 0.28 | 0.28 | 0.28 | | F | |
| Northwest Territories | 0.03 | 0.03 | 0.03 | | F | |
| Nova Scotia | 0.47 | 0.47 | 0.47 | | F | |
| Ontario | 2.28 | 2.28 | 2.28 | | F | |
| Prince Edouard Island | 0.08 | 0.08 | 0.08 | | F | |
| Québec | 2.46 | 2.46 | 2.46 | | F | |
| Saskatchewan | 0.46 | 0.46 | 0.46 | | F | |
| Yukon | 0.01 | 0.01 | 0.01 | | F | |
| Nunavut | | | | | | |
| **Total for Canada** | **8.58** | **8.58** | **8.58** | | | the factors used is the average of the factors used by EPA and NOAA |
| | | | ***LoQ*** | ***32*** | | |

Sector not previously included in the inventory

**Table 9** — **PCDDs/PCDFs Releases from Burning Salt Laden Wood**

| | | To Air | | | | | | In Ash | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Facility* | *City* | *g TEQ/y* | | | *Conc.* | *T/F* | *Comment* | *g TEQ/y* | | | *Conc.* | *Comment* |
| | | *'90* | *'97* | *'99* | *pg/m³* | | | *'90* | *'97* | *'99* | *pg/g* | *Landfill Status* |
| FCCL | Elk Falls | 3.90 | 3.90 | 3.60 | 1400 | T | | 57.5 | 57.5 | 57.5 | 150 | Sealed & leachate collection |
| FCCL | Crofton | 2.64 | 2.64 | 2.64 | 800 | T | | 5.5 | 5.5 | 5.5 | | Sealed & leachate collection |
| Pacifica papers [M&B] | Powell River | 1.80 | 1.80 | 0.23 | 57 | T [99] | fluidized bed replaced old boilers | 5.2 | 5.2 | 3.3 | 300 | Sealed & leachate collection |
| Howe Sound P&P | Pt. Mellon | 0.58 | 0.58 | 0.80 | 210 | T | | 12.7 | 12.7 | 12.7 | 960 | Lined, some collection |
| Bowater (Avenor) | Gold River | 0.40 | 0.40 | 0.00 | 253 | T | | 2.9 | 2.9 | 0 | | **closed in '98** |
| Harmac Pacific | | 0.37 | 0.37 | 0.09 | 47 | T ['99] | shut down 2 boilers+ improve control | 34.6 | 34.6 | 7.85 | 1500 | Landfill ? |
| Western Pulp | Pt. Alice | 0.25 | 0.25 | 0.30 | 144 | T | | 0.37 | 0.37 | 0.37 | | Sealed & leachate collection 2001 |
| Western Pulp | Squamish | 0.24 | 0.24 | 0.20 | 188 | T | | 4 | 4 | 4 | | Sealed & leachate collection |
| Skeena Cellulose | Prince Rupert | 0.20 | 0.20 | 0.00 | | T | | 0.025 | 0.025 | 0.03 | 10 | Landfill ? |
| Pacifica papers [M&B] | Port Alberni | 0.10 | 0.10 | 0.10 | 36 | T | | 14.4 | 14.4 | 14.4 | 1900 | Landfill ? |
| Eurocan | Kitimat | 0.00 | 0.00 | 0.00 | | F | | | | | | |
| **Sub-total for British Columbia** | | **10.5** | **10.5** | **8.0** | | | | **137** | **137** | **105** | | |
| **Total for Canada** | | **10.5** | **10.5** | **8.0** | | | | **137** | **137** | **105** | | |
| | | | | ***LoQ*** | ***32*** | | | | | | | |
| ***CWS approved in 2000*** | | ***CWS = 100 pg/m³ for new installations & CWS = 500 pg/m³ for existing installations*** | | | | | | (study undertaken to determine leachate to soil) | | | | |

***Note: Reductions shown in '99 are due to improvements carried out by industry***

**Table 10** **PCDDs/PCDFs Atmospheric Releases from Fuel Combustion (residential/ agricultural)**

| *Province* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|
| *Alberta* | 4.4 | 4.4 | 4.4 | | F | |
| *British Columbia* | 0.02 | 0.02 | 0.02 | | F | |
| *Manitoba* | 0.00 | 0.00 | 0.00 | | F | |
| *New Brunswick* | 0.03 | 0.03 | 0.03 | | F | |
| *Newfoundland* | 0.02 | 0.02 | 0.02 | | F | |
| *Northwest Territories* | 0.00 | 0.00 | 0.00 | | F | |
| *Nova Scotia* | 2.2 | 2.2 | 2.2 | | F | |
| *Ontario* | 0.11 | 0.11 | 0.11 | | F | |
| *Prince Edouard Island* | 0.01 | 0.01 | 0.01 | | F | |
| *Québec* | 0.19 | 0.19 | 0.19 | | F | |
| *Saskatchewan* | 0.00 | 0.00 | 0.00 | | F | |
| *Yukon* | 0.00 | 0.00 | 0.00 | | F | |
| *Nunavut* | | | | | | |
| **Total for Canada** | **7** | **7** | **7** | | | |
| | | | ***LoQ*** | ***32*** | | |

***No changes from original report (Jan. '99)***

**Table 11** **PCDDs/PCDFs Atmospheric Releases from Iron Sintering**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc* $pg/m^3$ | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Ontario* | Algoma Steel | Wawa | 19.4 | 19.4 | 0.0 | 5600 | T | **Plant closed 98/6** |
| | Stelco | Hamilton | 6.0 | 6.0 | 6.0 | 2700 | T'98 | Test results [provided '99] down from previously estimated 23.5 g TEQ/y |
| | **Sub-total for Ontario** | | **25.4** | **25.4** | **6.0** | | | |
| | **Total for Canada** | | **25.4** | **25.4** | **6.0** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***CWS expected in 2001***

**Table 12** **PCDDs/PCDFs Atmospheric Releases from Electric Power Generation**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* | | | *Conc* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | *pg/m³* | | |
| *Alberta* | Alberta Power | Battle River | 0.27 | 0.27 | 0.27 | | F | EPA Factors |
| | Alberta Power | H.R. Milner | 0.04 | 0.04 | 0.04 | | F | EPA Factors |
| | Alberta Power | Sheerness | 0.07 | 0.15 | 0.15 | | F | EPA Factors |
| | EPCOR | Genesee | 0.03 | 0.06 | 0.06 | 5 | F | EPRI |
| | TransAlta | Keephills | | 0.31 | 0.31 | 12 | F | EPA Factors |
| | TransAlta | Sundance | | 0.81 | 0.81 | 12 | F | EPA Factors |
| | TransAlta | Wabamun | | 0.24 | 0.24 | 12 | F | EPA Factors |
| | **Sub-total for Alberta** | | **0.41** | **1.87** | **1.87** | | | |
| *Manitoba* | Manitoba Hydro | Brandon | 0.02 | 0.01 | 0.01 | | F | EPA Factors |
| | Manitoba Hydro | Selkirk | 0.00 | 0.01 | 0.01 | | F | EPA Factors - Standby unit |
| | **Sub-total for Manitoba** | | **0.03** | **0.02** | **0.02** | | | |
| *New Brunswick* | NB Power | Belledune | 0.10 | 0.10 | 0.10 | | F | Release calculated by EC |
| | NB Power | Coleson Cove | 0.12 | 0.12 | 0.12 | | F | Release calculated by EC |
| | NB Power | Courtney Bay | 0.02 | 0.02 | 0.02 | | F | Release calculated by EC |
| | NB Power | Dalhousie | 0.11 | 0.11 | 0.11 | | F | Release calculated by EC |
| | NB Power | Grand Lake | 0.01 | 0.01 | 0.01 | | F | Release calculated by EC |
| | **Sub-total for New Brunswick** | | **0.36** | **0.36** | **0.36** | | | |
| *Nova Scotia* | NS Power | Lingan | 0.30 | 0.30 | 0.30 | 25 | F | EPA; No major changes: 90 & 95 |
| | NS Power | Point Aconi | 0.02 | 0.02 | 0.02 | 6 | T | EPA; No major changes: 90 & 95 |
| | NS Power | Point Tupper | 0.08 | 0.08 | 0.08 | 22 | F | EPA; No major changes: 90 & 95 |
| | NS Power | Trenton | 0.16 | 0.16 | 0.16 | 27 | F | EPA; No major changes: 90 & 95 |
| | NS Power | Tufts Cove | 0.19 | 0.19 | 0.19 | 30 | F | EPA; No major changes: 90 & 95 |
| | **Sub-total for Nova Scotia** | | **0.75** | **0.75** | **0.75** | | | |

**Table 12** **PCDDs/PCDFs Atmospheric Releases from Electric Power Generation (Cont.)**

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc $pg/m^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| Ontario | Ontario Hydro | Atikokan | 0.07 | 0.04 | 0.04 | | F | EPRI Factors |
| | Ontario Hydro | Lakeview | 0.16 | 0.05 | 0.05 | | T | |
| | Ontario Hydro | Lambton | 0.18 | 0.16 | 0.16 | | TF | EPRI Factors |
| | Ontario Hydro | Lennox | 0.30 | 0.03 | 0.03 | | T | |
| | Ontario Hydro | Nanticoke | 0.02 | 0.01 | 0.01 | | T | |
| | Ontario Hydro | Thunder Bay | 0.40 | 0.40 | 0.40 | | T | |
| | **Sub-total for Ontario** | | **1.13** | **0.69** | **0.69** | | | |
| Saskatchewan | Sask Power | Boundary Dam | 0.39 | 0.39 | 0.39 | | F | |
| | Sask Power | Poplar River | 0.34 | 0.34 | 0.34 | | F | |
| | Sask Power | Queen Elizabeth | | 0.01 | 0.01 | | F | natural gas in near future |
| | Sask Power | Shand | | 0.13 | 0.13 | | F | |
| | **Sub-total for Saskatchewan** | | **0.73** | **0.87** | **0.87** | | | |
| | **Total for Canada** | | **3** | **5** | **5** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***No changes from original report (Jan. '99)***

**Table 13** **PCDDs/PCDFs Atmospheric Releases from Residential Wood Combustion**

| Province | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|
| Alberta | 0.13 | 0.13 | 0.13 | | F | |
| British Columbia | 0.3 | 0.3 | 0.3 | | F | |
| Manitoba | 0.07 | 0.07 | 0.07 | | F | |
| New Brunswick | 0.33 | 0.33 | 0.33 | | F | |
| Newfoundland | 0.19 | 0.19 | 0.19 | | F | |
| Northwest Territories | 0.01 | 0.01 | 0.01 | | F | |
| Nova Scotia | 0.25 | 0.25 | 0.25 | | F | |
| Ontario | 0.84 | 0.84 | 0.84 | | F | |
| Prince Edouard Island | 0.06 | 0.06 | 0.06 | | F | |
| Québec | 1.07 | 1.07 | 1.07 | | F | |
| Saskatchewan | 0.04 | 0.04 | 0.04 | | F | |
| Yukon | 0.00 | 0.00 | 0.00 | | F | |
| Nunavut | | | | | | |
| **Total for Canada** | **3.3** | **3.3** | **3.3** | | | |
| ***F = 0.5 ng/kg*** | | | ***LoQ*** | ***32*** | | ***CWS expected in 2001*** |

***The total release from this sector has been revised down from 36 g TEQ/y due to new information on wood consumption in Ontario & Quebec and results of tests carried out for new and conventional stoves.***

**Table 14** **PCDDs/PCDFs Atmospheric Releases from Base Metals Smelting**

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| Ontario | Falconbridge | Sudbury | 2.90 | 2.90 | 2.90 | 500 | T '99 | Company provided stack test result; not included previously |
| | Falconbridge | Timmins | | | | | | info not available |
| | Inco | Sudbury | | | | | | info not available |
| | Timinco | Haley | | | | | | info not available |
| | **Sub-total for Ontario** | | **2.90** | **2.90** | **2.90** | | | |
| Manitoba | Hudson Bay Mining and Smelting | Flin Flon | | | | | | info not available |
| | Inco Ltd. | Thompson | | | | | | info not available |
| | **Sub-total for Manitoba** | | | | | | | |
| Québec | Noranda | Horn | 0.10 | 0.10 | 0.10 | < D.L. | T | |
| | **Sub-total for Quebec** | | **0.10** | **0.10** | **0.10** | | | |
| | **Total for Canada** | | **3.0** | **3.0** | **3.0** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***Sector info revised, see item (1)***

**Table 15** **PCDDs/PCDFs Atmospheric Releases from Cement Kilns**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc.* $pg/m^3$ | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | Lafarge Canada Inc. | Exshaw | 0.65 | 0.65 | 0.65 | 548 | T | Test '98 |
| | Inland Cement | Edmonton | 0.14 | 0.14 | 0.14 | 36 | T | Test '90 & '98 |
| | Lafarge Canada Inc. | Exshaw | 0.02 | 0.02 | 0.02 | 5 | T | test '98 |
| | **Sub-total for Alberta** | | **0.80** | **0.80** | **0.80** | | | |
| *British Columbia* | Lafarge Canada Inc. | Richmond (2) | 0.34 | 0.34 | 0.34 | 170 | T/F | |
| | Lafarge Canada Inc. | Kamloops | 0.03 | 0.03 | 0.03 | 58 | F | |
| | Tilbury Cement Ltd*[1] | Delta | | 0.02 | 0.02 | 5 | T | Started '91, Test '96 |
| | **Sub-total for British Columbia** | | **0.37** | **0.39** | **0.39** | | | |
| *Newfoundland* | North Star Cement Ltd. | Corner Brook | 0.03 | 0.03 | 0.03 | 70 | F | |
| | **Sub-total for Newfoundland** | | **0.03** | **0.03** | **0.03** | | | |
| *Nova Scotia* | Lafarge Canada Inc.* | Brookfield | 0.04 | 0.04 | 0.04 | 50 | F | |
| | **Sub-total for Nova Scotia** | | **0.04** | **0.04** | **0.04** | | | |
| *Ontario* | Blue Circle Canada | Bowmanville | | 0.26 | 0.26 | 70 | F | Started '91 |
| | St-Lawrence Cement* | Mississauga | 0.20 | 0.20 | 0.20 | 158 | T | Test '97 |
| | Essroc Canada Inc. | Picton (2) | 0.10 | 0.10 | 0.10 | 40 | T | Test '97 |
| | Lafarge Canada Inc. | Woodstock (2) | 0.10 | 0.10 | 0.10 | 44 | F | |
| | Essroc Canada Inc. | Picton | 0.05 | 0.05 | 0.05 | 57 | F | |
| | Federal White Cement Ltd. | Woodstock | 0.03 | 0.03 | 0.03 | | F | |
| | Blue Circle Canada | St-Mary's | 0.02 | 0.02 | 0.02 | 12 | T | Test '97 |
| | Lafarge Canada Inc. | Bath | 0.02 | 0.02 | 0.02 | 8 | T | Test '96 |
| | **Sub-total for Ontario** | | **0.51** | **0.78** | **0.78** | | | |
| *Québec* | St-Lawrence Cement* | Jolliette (4) | 0.71 | 0.71 | 0.71 | 240 | T,F | Test '93 |
| | Lafarge Canada Inc. | St-Constant | 0.04 | 0.04 | 0.04 | 25 | F | |
| | Lafarge Canada Inc.* | St-Constant | 0.04 | 0.04 | 0.04 | 25 | T | |
| | Ciment Quebec* | St-Basile | 0.02 | 0.02 | 0.02 | 11 | T | Test '96 |
| | St-Lawrence Cement* | Beauport (2) | 0.00 | 0.00 | 0.00 | | T | **Closed '96** |
| | **Sub-total for Quebec** | | **0.80** | **0.80** | **0.80** | **32** | ***LoQ*** | |
| | **Total for Canada** | | **3** | **3** | **3** | | | |

***(number) indicates the number of kilns per facility*** ***No changes from original report***

[1] * : facilities burning alternative fuels

**Table 16** **PCDDs/PCDFs Releases from Utility Poles**

| Province | In-Service: To Air PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m3 | T/F | In-Service: To Soil PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Out-of-Service: In Landfilled Wood PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alberta | 0.2 | 0.2 | 0.2 | | F | 0.93 | 0.93 | 0.93 | 4 | 4 | 4 |
| British Columbia | 0.2 | 0.2 | 0.2 | | F | 0.93 | 0.93 | 0.93 | 4 | 4 | 4 |
| Manitoba | 0.1 | 0.1 | 0.1 | | F | 0.46 | 0.46 | 0.46 | 2 | 2 | 2 |
| New Brunswick | 0.1 | 0.1 | 0.1 | | F | 0.46 | 0.46 | 0.46 | 2 | 2 | 2 |
| Newfoundland | 0.0 | 0.0 | 0.0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Northwest Territories | 0.0 | 0.0 | 0.0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Nova Scotia | 0.1 | 0.1 | 0.1 | | F | 0.46 | 0.46 | 0.46 | 2 | 2 | 2 |
| Ontario | 0.7 | 0.7 | 0.7 | | F | 3.3 | 3.3 | 3.3 | 13 | 13 | 13 |
| Prince Edouard Island | 0.0 | 0.0 | 0.0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Québec | 0.5 | 0.5 | 0.5 | | F | 2.3 | 2.3 | 2.3 | 7 | 7 | 7 |
| Saskatchewan | 0.1 | 0.1 | 0.1 | | F | 0.46 | 0.46 | 0.46 | 2 | 2 | 2 |
| Yukon | 0.0 | 0.0 | 0.0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Nunavut | | | | | | | | | | | |
| **Total for Canada** | **2** | **2** | **2** | | | **9.3** | **9.3** | **9.3** | **36** | **36** | **36** |
| | | | **LoQ** | **32** | | **Revisions requested by Penta Task Force, as per revised data in the SOP for Wood Preservation** | | | | | |

**Table 17** **PCDDs/PCDFs Releases from Wood Preserving Plants (g TEQ/y)**

| Province | To Air | | | Conc. | T/F | To Soil | | |
|---|---|---|---|---|---|---|---|---|
| | '90 | '97 | '99 | pg/m$^3$ | | '90 | '97 | '99 |
| Alberta | 0.2 | 0.2 | 0.2 | | F | 0.2 | 0.2 | 0.2 |
| British Columbia | 0.2 | 0.2 | 0.2 | | F | 0.2 | 0.2 | 0.2 |
| Manitoba | 0.0 | 0.0 | 0.0 | | F | 0.0 | 0.0 | 0.0 |
| New Brunswick | 0.1 | 0.1 | 0.1 | | F | 0.1 | 0.1 | 0.1 |
| Newfoundland | 0.0 | 0.0 | 0.0 | | F | 0.0 | 0.0 | 0.0 |
| Northwest Territories | 0.0 | 0.0 | 0.0 | | F | 0.0 | 0.0 | 0.0 |
| Nova Scotia | 0.1 | 0.1 | 0.1 | | F | 0.1 | 0.1 | 0.1 |
| Ontario | 0.7 | 0.7 | 0.7 | | F | 0.7 | 0.7 | 0.7 |
| Prince Edouard Island | 0.0 | 0.0 | 0.0 | | F | 0.0 | 0.0 | 0.0 |
| Québec | 0.5 | 0.5 | 0.5 | | F | 0.5 | 0.5 | 0.5 |
| Saskatchewan | 0.1 | 0.1 | 0.1 | | F | 0.1 | 0.1 | 0.1 |
| Yukon | 0.0 | 0.0 | 0.0 | | F | 0.0 | 0.0 | 0.0 |
| Nunavut | | | | | | | | |
| **Total for Canada** | **1.8** | **1.8** | **1.8** | | | **1.8** | **1.8** | **1.8** |
| | | | **LoQ** | **32** | | | | |

***No changes from original report (Jan. '99)***

**Table 18** **PCDDs/PCDFs Atmospheric Releases from Waste Wood Combustion**

| Province | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|
| Alberta | 0.08 | 0.08 | 0.08 | | F | |
| British Columbia | 0.31 | 0.31 | 0.31 | | F | |
| Manitoba | 0.01 | 0.01 | 0.01 | | F | |
| New Brunswick | 0.14 | 0.14 | 0.14 | | F | |
| Newfoundland | 0.06 | 0.06 | 0.06 | | F | |
| Northwest Territories | 0.00 | 0.00 | 0.00 | | F | |
| Nova Scotia | 0.08 | 0.08 | 0.08 | | F | |
| Ontario | 0.2 | 0.2 | 0.2 | | F | |
| Prince Edouard Island | 0.01 | 0.01 | 0.01 | | F | |
| Québec | 0.34 | 0.34 | 0.34 | | F | |
| Saskatchewan | 0.02 | 0.02 | 0.02 | | F | |
| Yukon | 0.00 | 0.00 | 0.00 | | F | |
| Nunavut | | | | | | |
| **Total for Canada** | **1.3** | **1.3** | **1.3** | | | |
| | | | ***LoQ*** | ***32*** | | |

***Total has been reduced from 4.5 g TEQ, wood consumption revised***

**Table 19** **PCDDs/PCDFs Atmospheric Releases from Kraft Liquour Boilers**

| *Province* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|
| *Alberta* | 0.06 | 0.06 | 0.06 | ~ 6 | F | |
| *British Columbia* | 0.12 | 0.12 | 0.12 | ~ 6 | F | |
| *Manitoba* | 0.01 | 0.01 | 0.01 | ~ 6 | F | |
| *New Brunswick* | 0.10 | 0.10 | 0.10 | ~ 6 | F | |
| *Newfoundland* | 0.01 | 0.01 | 0.01 | ~ 6 | F | |
| *Northwest Territories* | 0 | 0 | 0 | | F | |
| *Nova Scotia* | 0.04 | 0.04 | 0.04 | ~ 6 | F | |
| *Ontario* | 0.07 | 0.07 | 0.07 | ~ 6 | F | |
| *Prince Edouard Island* | 0 | 0 | 0 | | F | |
| *Québec* | 0.15 | 0.15 | 0.15 | ~ 6 | F | |
| *Saskatchewan* | 0.01 | 0.01 | 0.01 | ~ 6 | F | |
| *Yukon* | 0 | 0 | 0 | | F | |
| *Nunavut* | 0 | 0 | 0 | | | |
| **Total for Canada** | **0.6** | **0.6** | **0.6** | | | |
| | | | ***LoQ*** | ***32*** | | |

**Table 20** **PCDDs/PCDFs Atmospheric Releases from Steel Foundries**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *British Columbia* | ESCO Ltd. | Port Coquitlan | 0.01 | 0.01 | 0.01 | | F | |
| | **Sub-Total British Columbia** | | **0.01** | **0.01** | **0.01** | | | |
| *Ontario* | Dominion Castings Ltd. | Hamilton | 0.07 | 0.08 | 0.08 | | F | |
| | ESCO Ltd. | Port Hope | 0.01 | 0.01 | 0.01 | | F | |
| | **Sub-Total Ontario** | | **0.08** | **0.09** | **0.09** | | | |
| *Québec* | Canadian Steel Wheel | Montreal | 0.24 | 0.26 | 0.26 | | F | |
| | Slater Industries Ltd. | Sorel | 0.09 | 0.10 | 0.10 | | F | |
| | **Sub-Total Quebec** | | **0.33** | **0.36** | **0.36** | | | |
| | **Total for Canada** | | **0.4** | **0.5** | **0.5** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***No changes from original report (Jan. '99)***

**Table 21** **PCDDs/PCDFs Atmospheric Releases from Magnesium Production**

| *Province* | *Facility Name* | *City* | *PCDDs/PCDFs (g TEQ/y)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Comment* |
|---|---|---|---|---|---|---|---|---|
| *Québec* | Norsk Hydro | Becancour | 0.27 | 0.27 | 0.27 | | T | |
| | Magnola | Danville | 0.00 | 0.00 | 0.00 | 100 -500 | | Start production in 2000 (0.09 gTEQ/y) |
| | **Sub-total for Quebec** | | **0.27** | **0.27** | **0.27** | | | |
| | **Total for Canada** | | **0.3** | **0.3** | **0.3** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

*This sector was previously included with Base Metals Smelting, Table-14*

**Table 22** **PCDDs/PCDFs Atmospheric Releases from Chemical Production**

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| Alberta | Dow Chemical Canada | Ft-Saskatchewan | 1.67 | 1.67 | 0.02 | 55 | T | 12 compliance samples taken in 1999 (11% O2) |
| | Celanese Canada | Edmonton | 0 | 0 | 0 | | | |
| | | **Sub-Total Alberta** | **1.67** | **1.67** | **0.02** | | | |
| Ontario | Dow Chemcial Canada | Sarnia | 0.50 | 0.00 | 0.00 | | | facility shut down in 1993 |
| | Celanese Canada | Millhaven | | | | | | Company sold |
| | DuPont Canada | Kingston | 0.00 | | 0.00 | | F | |
| | Esso Chemicals | Sarnia | | | | | | |
| | Montell Canada | Sarnia | | | | | F | process review |
| | PCI Chemicals, Sheridan Park | Mississauga | 0.00 | | 0.00 | | F | Research lab. |
| | Uniroyal Chemicals Ltd. | | | | | | | |
| | | **Sub-Total Ontario** | **0.50** | **0.00** | **0.00** | | | |
| Québec | H.L. Blanchard Ltd. | Montreal | 0.00 | | | | F | |
| | Celanese Canada | Drummondville | | | 0 | | | Plant shut-down |
| | Kronos Canada | Varennes | | | | | | |
| | | **Sub-Total Quebec** | **0.00** | **0.00** | **0.00** | | | |
| | | **Total for Canada** | **2.17** | **1.67** | **0.02** | | | |
| | | | | | ***LoQ*** | ***32*** | | |

***No changes from original report (Jan. '99)***

## Table 23 PCDDs/PCDFs Atmospheric Releases from Secondary Lead Smelters

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | TIF | Comment |
|---|---|---|---|---|---|---|---|---|
| British Columbia | Metalex | Richmond | | | | | | |
| | **Sub-Total British Columbia** | | | | | | | |
| Manitoba | Canada Metals | Winnipeg | | | | | | |
| | **Sub-Total Manitoba** | | | | | | | |
| Ontario | Tonolli Canada | Mississauga | 0.03 | 0.03 | 0.03 | | F | US EPA Factors: 0.92 ng TEQ/kg scrap |
| | **Sub-Total Ontario** | | **0.03** | **0.03** | **0.03** | | | |
| Québec | Nova Pb Inc. | Ste-Catherine | 0.05 | 0.05 | 0.05 | | F | US EPA Factors: 0.92 ng TEQ/kg scrap |
| | **Sub-Total Quebec** | | **0.05** | **0.05** | **0.05** | | | |
| | **Total for Canada** | | **0.08** | **0.08** | **0.08** | | | |
| | | | | | LoQ | 32 | | |

**No changes from original report (Jan. '99)**

**Table 24** **PCDDs/PCDFs Atmospheric Releases from Petroleum Refineries**

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | **Total for Canada** | | | | | | |
| | | | | | | | | |
| | | | | | ***LoQ*** | ***32*** | | |

## Table 25 PCDDs/PCDFs Atmospheric Releases from Aluminum Production & Smelting

| Province | Facility Name | City | PCDDs/PCDFs (g TEQ/y) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Comment |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | **Total for Canada** | | | | | | | |
| | | | | | **LoQ** | **32** | | |

**Table - 26** **PCDDs/PCDFs Released to Soil from Land Application of Sludge**

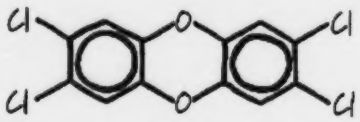
| Province | Sludge[1] (1000 dry tonnes/y) landfilled | incinerated | Applied to land | total | Sludge Applied to land 1000t/y | g TEQ/y |
|---|---|---|---|---|---|---|
| *Ontario* | 99 | 99 | 102 | 300 | 102 | 2.55 |
| *British Columbia* | 5 | 1 | 75 | 81 | 75 | 1.875 |
| *Alberta* | 0 | 0 | 40 | 40 | 40 | 1 |
| *Manitoba*[2] | 0 | 0 | 25 | 25 | 25 (20) | 0.625 (0.5) |
| *Quebec* | 21 | 130 | 18 | 169 | 18 | 0.46 |
| *Saskatchewan* | 1 | 0 | 15 | 16 | 15 | 0.375 |
| *Prince Edouard Island* | 0 | 0 | 1 | 1 | 1 | 0.03 |
| *New Brunswick* | 1 | 0 | 1 | 2 | 1 | 0.025 |
| *Nova Scotia* | 0 | 0 | 1 | 1 | 1 | 0.015 |
| *Newfoundland* | 5 | 0 | 0 | 5 | 0 | 0 |
| TOTAL | 132 | 230 | 278 | 640 | 278 | 6.955 |

| ***PCDDs/PCDFs*** | ***pg TEQ/kg dw*** | |
|---|---|---|
| *US EPA & American Forestry*[3] | *50,000* | *was exceeded in several Canadian sludges included in the study* |
| ***factor*[4] *applied from tests*** | ***25,000*** | |
| *Swedish sludges* [3] | *31,000,000* | |
| *Netherland sludges* [3] | *22,000,000* | |
| *CCME Criteria for soil* | *10,000* | |
| *EPA. arable land* | *10,000* | |
| ***LoQ for release to soil*** | ***9,000*** | |
| *MOE*[5] | *7,000* | |
| *EPA. pasture land* | *1,000* | |

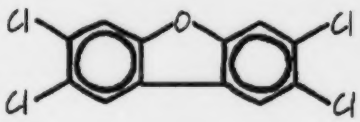
***Information not previously published in the inventory***

[1] Sludge quantities are taken from an Environment Canada reference for mercury
[2] Numbers between brackets are provided by Manitoba Environment
[3] Maximum value voluntary agreed to, for land application of paper mill sludges
[4] Wastewater Technology Centre, "Organic and metal contaminants in Canadian municipal sludges and a sludge compost"; Feb. '95
[5] Background concentration in agricultural soil in Ontario

# *Inventaire des rejets*



Dibenzo-p-dioxines polychlorées
Substituées aux positions 2,3,7,8
(PCDDs)



Dibenzofurannes polychlorées
Substituées aux positions 2,3,7,8
(PCDFs)

***Ébauche - Deuxième édition***

**Préparée par**

***Environnement Canada***

**Octobre 2000**

Canada

**Remerciements**

Environnement Canada tient à remercier tous ceux qui ont fourni de l'information ou commentaires pour ce rapport.

**Introduction**

Ce rapport est une mise-à-jour du rapport sur l'inventaire des rejets de dioxines et furannes et héxachlorobenzène publié en janvier 1999 et qui est affiché sur la voie verte d'Environnement Canada, Ce rapport contient un sommaire et le détail de l'information actuellement disponible sur les rejets de sources anthropogéniques.

La nature des révisions est indiquée sur les tableaux sommaires ainsi que sur les tableaux sectoriaux.

Quand d'autre information devient disponible, le rapport de l'inventaire sera encore révisé.

**En plus des juridictions, tous ceux qui génèrent des dioxines et furannes sont encouragés à examiner ce rapport et soumettre les commentaires et corrections appropriés, spécialement quand les concentrations manquent et des analyses ont été faites.**

Les dioxines et furannes ont été ajoutés à la liste de l'inventaire national des rejets des polluants pour l'an 2000.

Des standards pan-canadiens sont en voie de développement pour un nombre de secteurs prioritaires, ceux-ci ont été identifiés dans ce rapport (voir figure 4). D'autres secteurs peuvent aussi être adressé dans l'avenir.

Parceque le héxachlorobenzène a été ajouté à la liste de l'inventaire national des rejets des polluants pour l'an 2000, il n'a pas été inclus dans ce document,.

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## *Abréviations*

| Abréviation française | Explication | Abréviation anglaise |
|---|---|---|
| T | Test | T |
| F | facteur d'émission | F |
| PCDDs/PCDFs | Dibenzo-p-dioxines polychlorées Substituées aux positions 2,3,7,8 et Dibenzofurannes polychlorées Substituées aux positions 2,3,7,8 | PCDDs/PCDFs |
| NdD | Niveau de dosage | LoQ |
| SPC | Standard pan canadien | CWS |
| FET/a | facteur d'équivalent toxique/année | TEQ/y |
| POS | Processus des options stratégiques | SOP |
| | | |

***Figure 1 - Rejets atmosphériques sectoriels de PCDDs/PCDFs en g FET/a pour 1990, 1997 & 1999***
***(résumé de l'information disponible; à développer les données sur les 3 secteurs du haut de la page)***

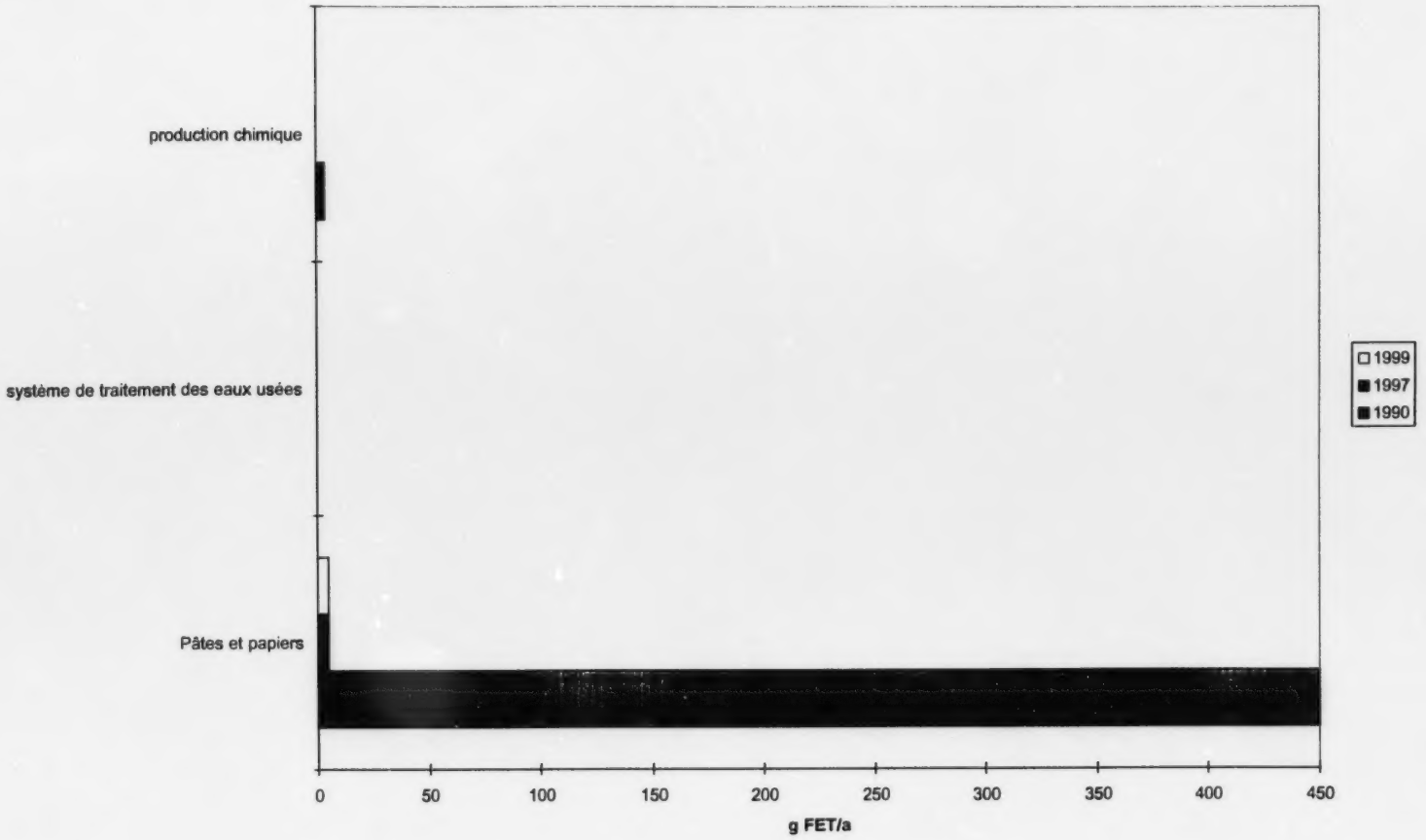


***Figure 2 - Rejets sectoriels à l'eau de PCDDs/PCDFs en g FET/a pour1990, 1997 & 1999***
***(résumé de l'information disponible; à développer les données sur les systèmes de traitements des eaux usées)***

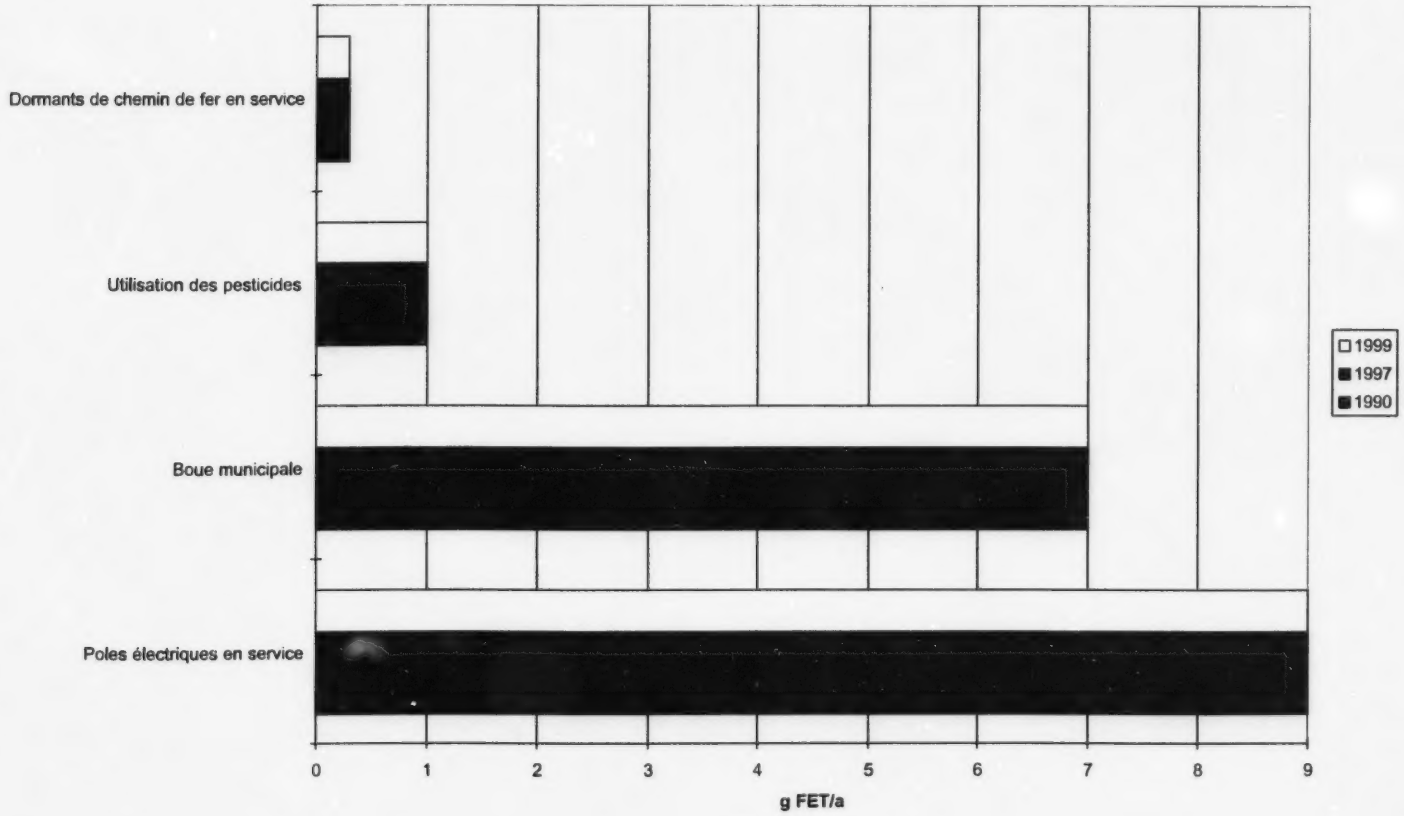


***Fig. 3 - Rejets sectoriels au sol de PCDDs/PCDFs en g FET/a pour 1990, 1997 & 1999***
***(résumé de l'information disponible)***

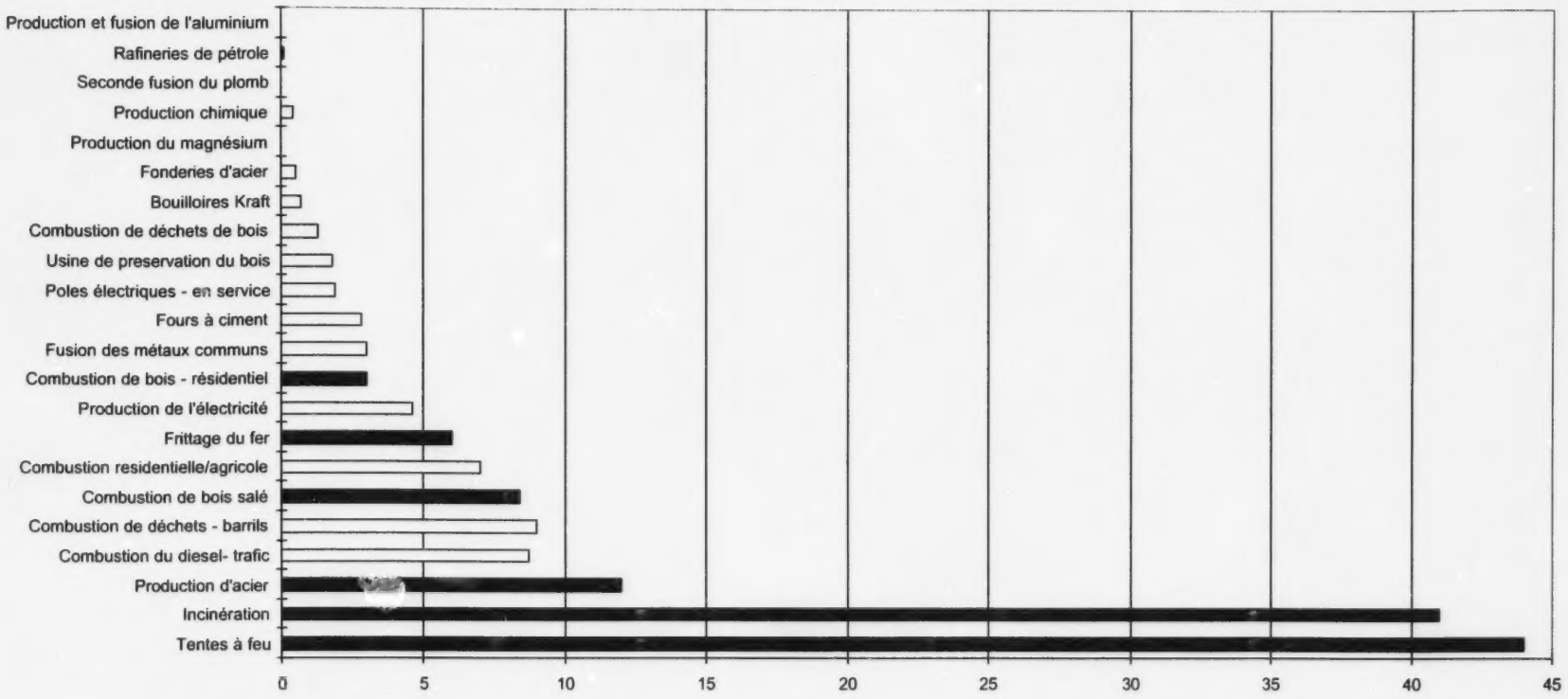


***Figure 4 - Rejets atmosphériques sectoriels de PCDDs/PCDFs en g FET/a pour 1999***
***(résumé de l'information disponible; en bleu, les secteurs adressés par un standard pan-canadien***

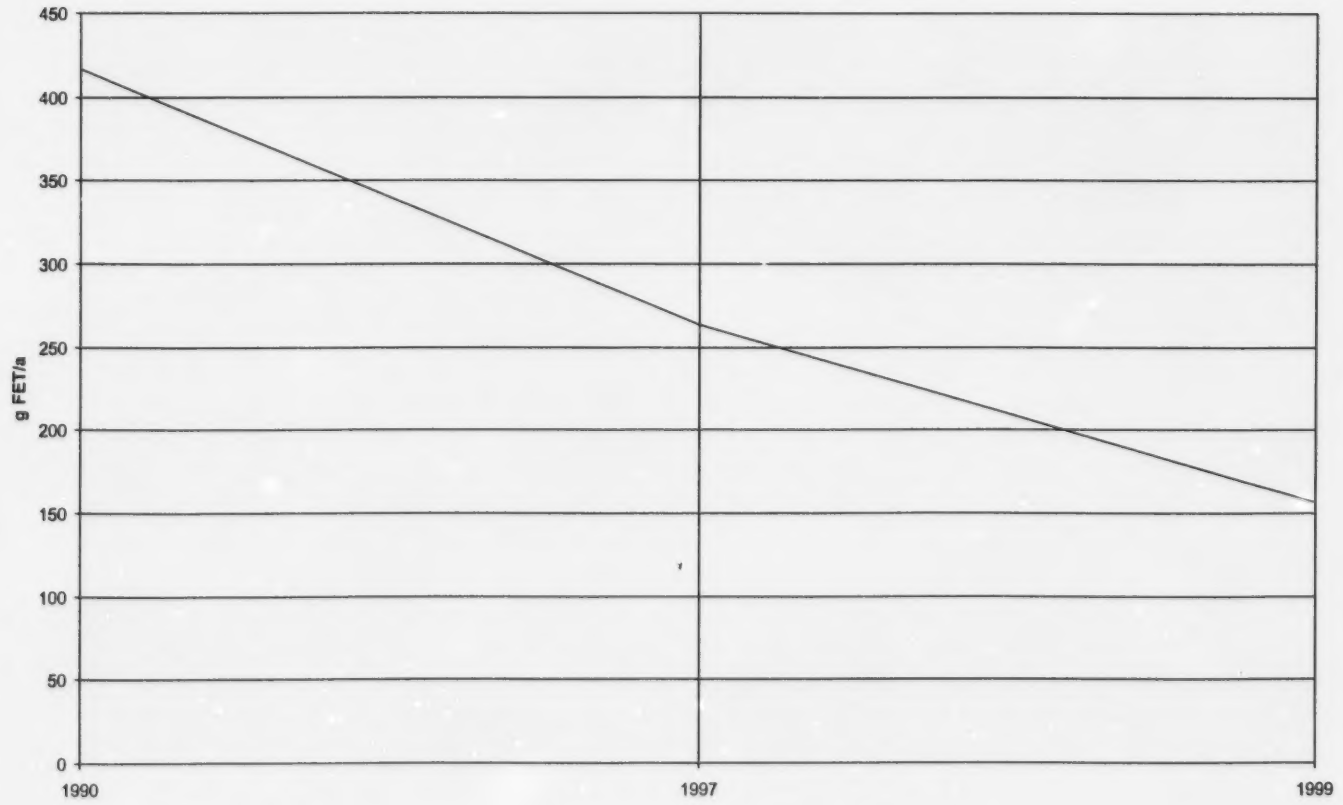


***Figure 5 - Total des rejets atmosphériques canadiens de sources anthropiques en 1990, 1997 & 1999 (g FET/a)***

**Table 1** — **Information sur le rejets de PCDDs/PCDFs avec pourcentage et pourcentage cumulatif**

| *Source* | *Usines Testées/ Total* | *TEQ en g/a 1990* | *1997* | *1999* | *% 1999* | *Cum. % 1999* | *Initiatives courantes* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| **Rejets atmosphériques** | | | | | | | | |
| Tentes à feu | facteurs | 44 | 44 | 44 | 28 | 28 | SPC 2001 | en révision, possibilité d'échantillonnage en considération, champ 10-75 |
| Incinérateurs à rebuts | | 282 | 127 | 41 | 26 | | | total de l'incinération |
| Médical | | 130 | 36 | 25 | 16 | 44 | SPC 2000 | chiffres ont augmenté à cause de l'utilisation des facteurs révisés |
| Municipal | | 143 | 83 | 9 | 6 | 50 | SPC 2000 | |
| Dangereux | 4/4 | 9 | 8 | 7 | 4 | 55 | SPC 2000 | chiffres ont augmenté, nouveaux résultats d'analyses |
| - Boue municipale | 4/9 | 0 | 0 | 0 | 0 | 55 | SPC 2000 | |
| Production de l'acier: four à arc électrique | 2/13 | 9 | 10 | 12 | 8 | 62 | SPC & POS | SPC cédulé '01; 2 usines testées/rapports; + 1 usine testée, rapport su |
| Combustion - Diesel (Trafic) | facteurs | 9 | 9 | 9 | 6 | 68 | | |
| Combustion de déchets - barils | facteurs | 9 | 9 | 9 | 6 | 74 | | pas inclus auparavant, moyenne des facteurs; sous révision |
| Combustion de bois salé | 9/10 | 11 | 11 | 8 | 5 | 79 | SPC 2000 | |
| Combustion (Agr./résid.) | facteurs | 7 | 7 | 7 | 4 | 84 | | |
| Frittage du fer | 2/2 | 25 | 25 | 6 | 4 | 87 | SPC & POS | SPC cédulé pour 2001 |
| Production de l'électricité | 6/29 | 3 | 5 | 5 | 3 | 90 | | initiative multipolluants en marche |
| Combustion: bois (résidentiel) | test | 3 | 3 | 3 | 2 | 92 | SPC 2001 | chiffres à la baisse de 36 g (consommation révisée et nouveau facteur |
| Fusion des métaux communs | 2/5 | 3 | 3 | 3 | 2 | 94 | POS | nouvelles données |
| Fours à ciment | 15/28 | 3 | 3 | 3 | 2 | 96 | | |
| Poles électriques en service | n.a. | 2 | 2 | 2 | 1 | 97 | POS | |
| Usine de préservation du bois | 0/12 | 2 | 2 | 2 | 1 | 98 | POS | |
| Combustion de rebus de bois | facteurs | 1 | 1 | 1 | 1 | 99 | | |
| Bouilloires kraft | 42 | 1 | 1 | 1 | 0 | 100 | | |
| Fonderies d'acier | 0/5 | 0 | 1 | 1 | 0 | 100 | | |
| Production du magnésium | 1/1 | 0 | 0 | 0 | 0 | 100 | | nouvelle info; + Magnola commece production en 2000 |
| Production chimique | 2/6 | 2 | 2 | 0 | 0 | 100 | | |
| Seconde fusion du plomb | 0/5 | 0 | 0 | 0 | 0 | 100 | | |
| Raffineries de pétrole | | | | | | | | information sur les rejets à développer |
| Production & fusion de l'aluminium | | | | | | | | information sur les rejets à développer |
| ***Sous-total*** | | ***416*** | ***264*** | ***156*** | ***100*** | | | |
| **Rejets à l'eau** | | | | | | | | |
| Pâtes et papiers | 42/42 | 450 | 5 | 5 | | | | |
| Systèmes de traitement des eaux usées | | | | | | | | information sur les rejets à développer |
| Production chimique | 8/8 | 3.7 | 0 | 0 | | | | |
| ***Sous-total*** | | ***454*** | ***5*** | ***5*** | | | | |
| **Rejets au sol** | | | | | | | | |
| Poles électriques en service | | 9 | 9 | 9 | | | | |
| Boue municipale | | 7 | 7 | 7 | | | | nouvelle information sur les rejets pour ce secteur |
| Dormants de chemin de fer ( en service) | | 0.3 | 0.3 | 0.3 | | | chiffres sur les rejets ont baissé, utilisation de nouvelles données publiées du rapport POS | |
| Utilisation des pesticides | | 1 | 1 | 1 | | | | ARLA a fourni les données résultantes de leur étude |
| ***Sous-total*** | | ***17.3*** | ***17.3*** | ***17.3*** | | | | |
| ***Rejets à l'air, eau et sol*** | | ***888*** | ***286*** | ***179*** | | | | |
| **PCDDs/PCDFs dans les produits** | | | | | | | | |
| Cendres de combustion du bois salé | 9/10 | 137 | 137 | 105 | | | | secteur prioritaire: SPC, svp voir tableau 9 |
| Bois traité - hors service (enfoui) | | 36 | 36 | 36 | | | | Application du rapport POS |
| ***Sous-total*** | | ***173*** | ***173*** | ***141*** | | | | |

**Tableau 2** — **Rejets atmosphériques de PCDDs/PCDFs et pourcentage de contribution par secteur, par juridiction**

| Secteur \ Province | TN | IPE | NB | NE | QC | ON | MB | SK | AB | CB | NO | YK | NU | Canada | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Rejets atmosphériques*** | | | | | | | | | | | | | | | | |
| Tentes à feu | 43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.94 | | | 44 | 28 |
| Incinération de rebuts | | | | | | | | | | | | | | | | |
| *médical* | 0.00 | 0.10 | 0.05 | 0.56 | 0.00 | 13.36 | 8.80 | 0.64 | 0.01 | 0.00 | 1.28 | 0.07 | 0.22 | | 25 | 16 |
| *municipal* | 0.00 | 0.09 | 0.00 | 0.01 | 0.03 | 2.15 | 0.00 | 0.50 | 0.00 | 0.01 | 0.00 | 0.00 | | 6.00 | 9 | 6 |
| *dangereux* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 7 | 5 |
| *boue municipale* | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Production de l'acier | 0.00 | 0.00 | 0.00 | 0.40 | 5.09 | 4.18 | 0.63 | 1.13 | 0.67 | 0.00 | 0.00 | 0.00 | | | 12 | 8 |
| Combustion du diesel - trafique | 0.17 | 0.05 | 0.27 | 0.31 | 1.99 | 3.11 | 0.33 | 0.37 | 1.38 | 0.81 | 0.01 | 0.05 | | | 9 | 6 |
| Combustion des rebuts - barrils | 0.28 | 0.08 | 0.43 | 0.47 | 2.46 | 2.28 | 0.38 | 0.46 | 0.77 | 0.93 | 0.03 | 0.01 | | | 9 | 5 |
| Combustion de bois salé | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.60 | 0.00 | 0.00 | | | 9 | 5 |
| Combustion résid/agr. | 0.02 | 0.01 | 0.03 | 2.20 | 0.19 | 0.11 | 0.00 | 0.00 | 4.40 | 0.02 | 0.00 | 0.00 | | | 7 | 4 |
| Frittage du fer | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 6 | 4 |
| Production de l'électricité | 0.00 | 0.00 | 0.36 | 0.75 | 0.00 | 0.69 | 0.02 | 0.87 | 1.87 | 0.00 | 0.00 | 0.00 | | | 5 | 3 |
| Combustion du bois à chauffage | 0.19 | 0.06 | 0.33 | 0.25 | 1.07 | 0.84 | 0.07 | 0.04 | 0.13 | 0.30 | 0.01 | 0.00 | | | 3 | 2 |
| Fusion des métaux communs | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 2.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 3 | 2 |
| Fours à ciment | 0.03 | 0.00 | 0.00 | 0.04 | 0.80 | 0.78 | 0.00 | 0.00 | 0.80 | 0.39 | 0.00 | 0.00 | | | 3 | 2 |
| Pôles électriques en service | 0.00 | 0.00 | 0.10 | 0.10 | 0.50 | 0.70 | 0.10 | 0.10 | 0.20 | 0.20 | 0.00 | 0.00 | | | 2 | 1 |
| Usine de préservation du bois | 0.00 | 0.00 | 0.00 | 0.10 | 0.80 | 0.30 | 0.00 | 0.00 | 0.10 | 0.50 | 0.00 | 0.00 | | | 2 | 1 |
| Combustion des rebuts de bois | 0.06 | 0.01 | 0.14 | 0.08 | 0.34 | 0.20 | 0.01 | 0.02 | 0.08 | 0.31 | 0.00 | 0.00 | | | 1 | 1 |
| Bouilloires krafi | 0.01 | 0.00 | 0.10 | 0.04 | 0.15 | 0.07 | 0.01 | 0.01 | 0.06 | 0.12 | 0.00 | 0.00 | | | 1 | 0 |
| Fonderies d'acier | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 | 0.09 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | | | 0 | 0 |
| Production du magnésium | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Seconde fusion du plomb | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Production chimique | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | | | 0 | 0 |
| Raffineries de pétrole | | | | | | | | | | | | | | | | |
| Seconde fusion de l'aluminium | | | | | | | | | | | | | | | | |
| Total gFET/année | 44 | 0 | 2 | 5 | 14 | 45 | 10 | 4 | 11 | 12 | 1 | 1 | 0 | 6 | 157 | |
| pourcentage du total | 25 | 0 | 1 | 3 | 8 | 26 | 6 | 2 | 6 | 7 | 1 | 1 | 0 | 3 | | 100 |
| ***Rejets au sol*** | | | | | | | | | | | | | | | | |
| Pôles électriques | 0.00 | 0.00 | 0.46 | 0.46 | 2.30 | 3.30 | 0.46 | 0.46 | 0.93 | 0.93 | | | | | 9.30 | |
| Utilisation des boues municipales | 0.00 | 0.03 | 0.03 | 0.02 | 0.46 | 2.55 | 0.63 | 0.38 | 1.00 | 1.87 | | | | | 6.95 | |
| Utilisation des pesticide | | | | | | | | | | | | | | | 1.00 | |

**Tableau 3** **Les plus grandes sources de rejets atmosphériques de PCDDs/PCDFs au Canada, en 1999 (plus grande que 0,5 g FET/a)**

| Catégorie | Nom de l'usine | Ville | Province | g ET /a | T/F | Commentaires |
|---|---|---|---|---|---|---|
| Incinérateurs de déchets dangereux | Ontario Hydro | Tiverton | Ontario | 6,80 | T | SPC |
| Frittage du fer | Stelco | Hamilton | Ontario | 6,00 | T | Test ' 99 - SPC |
| Acier- four à arc électrique | Sidbec-Dosco | Contrecoeur | Québec | 3,69 | F | SPC pour l'acier |
| P&P: combustion du bois salé | FCCL | Elk Falls | Colombie Britannique | 3,60 | T | SPC pour bouilloires |
| Fusion des métaux communs | Falconbridge | Sudbury | Ontario | 2,90 | T | POS |
| P&P: combustion du bois salé | FCCL | Crofton | Colombie Britannique | 2,64 | T | SPC pour bouilloires |
| Incinérateur municipal | Hamilton-Wentworth Solid waste | Hamilton | Ontario | 1,93 | T | test '97 - SPC |
| Acier- four à arc électrique | IPSCO Inc. | Regina | Saskatchewan | 1,13 | T | SPC pour l'acier |
| Acier- four à arc électrique | Stelco-Master Ltee. | Contrecoeur | Québec | 1,13 | F | SPC pour l'acier |
| Acier- four à arc électrique | Ivaco Inc. | L'Orignal | Ontario | 0,92 | F | SPC pour l'acier |
| Acier- four à arc électrique | Slater Steel, Hamilton Specialty Bar | Hamilton | Ontario | 0,82 | F | SPC pour l'acier |
| P&P: combustion du bois salé | Howe Sound P&P | Pt. Mellon | Colombie Britannique | 0,80 | T | SPC pour bouilloires |
| Acier- four à arc électrique | Co-Steel Inc. (LASCO) | Whitby | Ontario | 0,79 | F | SPC pour l'acier |
| Acier- four à arc électrique | Atlasteel Ltd. | Edmonton | Alberta | 0,67 | F | SPC pour l'acier |
| Acier- four à arc électrique | Gerdau Courtice Aciers | Cambridge | Ontario | 0,66 | F | SPC pour l'acier |
| Acier- four à arc électrique | Gerdau MRM | Selkirk | Manitoba | 0,63 | F | SPC pour l'acier |
| Incinérateur: déchets dangereux | Safetykleen | Corruna | Ontario | 0,59 | T | SPC |
| **Total** | | | | **35,7** | | |

**Tableau 4** **Rejets atmosphériques de PCDDs/PCDFs des tentes à feu**

| *Province* | *Nom de l'usine* | *# d'Usines* | *PCDDs/PCDFs (g FET/a)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| *Terreneuve* | Tentes à feu à basse température | 45 | 42,9 | 42,9 | 42,9 | | F | champ entre 10,9 et 74,9 g FET/a (basé sur des facteurs d'émissions) |
| *Yukon* | Landfill Trench and Burn | 24 | 0,94 | 0,94 | 0,94 | | F | basé sur des facteurs d'émissions |
| | **Total pour le Canada** | | ***44*** | ***44*** | ***44*** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***SPC cédulé pour 2001***

***Rejets du TN ont été révisé en utilisant un champ à la place d'un seul chiffre***

**Tableau 5 a** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de rebuts médicaux**

| *Province* | *Nom de l'usine* | *# Hôpital Incinérateurs* | *PCDDs/PCDFs (g FET/a)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| *Alberta* | Biseker | | 0,02 | 0 | 0,0001 | 6 | T '98 | déchets médicaux / non-dangereux |
| *Colombie Britannique* | | 0 | 25 | 1,50 | 0 | | F | **tous fermés** |
| *Manitoba* | | 35 | 42 | 10 | 9 | 126000 | F | 22 incinérateurs fermés en '97, |
| *Nouveau Brunswick* | | 3 | 7 | 3 | 0,1 | 1610 | F | Facteurs (US EPA) |
| *Terreneuve* | | 8 | 5 | 1 | 0 | 126000 | F | 6 incinérateurs fermés en '97 |
| *Territoires du Nordouest* | | 5 | 1 | 1 | 1,3 | 126000 | F | Facteurs (étude de l'Ontario ) |
| *Nouvelle Ecosse* | | 2 | 3 | 1 | 0,0 | | | svp voir Tableau 5-b |
| *Nunavut* | | 1 | 0 | 0 | 0,2 | 126000 | F | Facteurs (étude de l'Ontario ) |
| *Ontario* | | 56 | 39 | 15 | 14 | 126000 | F | Facteurs (étude de l'Ontario ) |
| *Ile du Prince Edouard* | | 1 | 0,50 | 0,20 | 0,1 | 126000 | F | Facteurs (étude de l'Ontario ) |
| *Québec* | *[système de rebuts médicaux]* | *Gatineau* | 4,9 | 0 | 0 | | T | **fermé début '97** |
| *Saskatchewan* | | 8 | 2 | 2 | 0,6 | 126000 | F | Facteurs (étude de l'Ontario ) |
| *Yukon* | | 1 | 0,50 | 1 | 0,1 | 126000 | F | Facteurs (étude de l'Ontario ) |
| | ***Total pour le Canada*** | | ***130*** | ***36*** | ***25*** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***SPC approuvé en 2000*** ***SPC = 80 pg/m³***

***NOTE: Le rejet total de ce secteur a augmenté significativement à cause de l'utilisation de facteur d'émissions révisé; le facteur précédent était de 25000 pg/m³***

**Tableau 5 b** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de rebuts municipaux**

| *Province* | *Nom de l'usine* | *Ville or incinérateur* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Alberta* | Wainwright Regional Incinerator Authority | Wainwright | | 0,01 | 0,001 | 27 | T '99 | déchets médicaux/municipaux |
| | **Sous-total pour l'Alberta** | | **0** | **0,01** | **0,00** | | | |
| *Colombie Britannique* | Cowichan Valley Regional District | Duncan | 4,70 | 4,70 | 0,00 | | F | **fermé fin '98** |
| | Ladysmith | Ladysmith | 1,60 | 1,60 | 0,00 | | F | **fermé fin '98** |
| | Lake Cowichan | Lake Cowichan | 1,30 | 1,30 | 0,00 | | F | **fermé fin '98** |
| | District of Tumbler Ridge | Tumbler Ridge | 1,01 | 1,01 | 0,00 | | F | **actuellement fermé** |
| | GVRD Burnaby Incinerator | Burnaby | 0,03 | 0,03 | 0,01 | **5** | T '99 | |
| | **Sous-total pour la Colombie Britannique** | | **8,64** | **8,64** | **0,01** | | | |
| *Usines Fédérales* | Incinérateurs fédéraux [NE] | 5 | 2,10 | 0,44 | 0,24 | 126000 | F | 38 incinérateurs en 1990 |
| | Incinérateurs fédéraux [ON] | 16 | 3,34 | 1,96 | 2,71 | 126000 | F | 46 incinérateurs en 1990 |
| | Incinérateurs fédéraux [AB] | 11 | 1,70 | 0,95 | 0,80 | 126000 | F | 35 incinérateurs en 1990 |
| | Incinérateurs fédéraux [CB] | 7 | 1,56 | 0,50 | 0,50 | 126000 | F | 34 incinérateurs en 1990 |
| | Incinérateurs fédéraux [MB] | 7 | 0,70 | 0,44 | 0,30 | 126000 | F | 13 incinérateurs en 1990 |
| | Incinérateurs fédéraux [TN] | 6 | 0,90 | 0,43 | 0,65 | 126000 | F | 15 incinérateurs en 1990 |
| | Incinérateurs fédéraux [TNO] | 4 | 0,90 | 0,40 | 0,28 | 126000 | F | 16 incinérateurs en 1990 |
| | Incinérateurs fédéraux [QC] | 3 | 0,90 | 0,20 | 0,13 | 126000 | F | 17 incinérateurs en 1990 |
| | Incinérateurs fédéraux [SK] | 3 | 0,50 | 0,20 | 0,09 | 126000 | F | 16 incinérateurs en 1990 |
| | Incinérateurs fédéraux [NB] | 2 | 0,30 | 0,09 | 0,05 | 126000 | F | 7 incinérateurs en 1990 |
| | Incinérateurs fédéraux [IPE] | 0 | 0,10 | 0,00 | 0,00 | | | 2 incinérateurs en 1990 |
| | Incinérateurs fédéraux [YK] | 0 | 0,06 | 0,00 | 0,00 | | | 2 incinérateurs en 1990 |
| | **Sous-total pour les incinérateurs fédéraux *** | | **13,06** | **5,61** | **5,75** | | | 241 incinérateurs en 1990 |
| *Nouvelle Ecosse* | County of Cape Breton MSW | Sydney | 5,30 | 0,01 | 0,00 | **1.2** | T '00 | déchets médicaux/municipaux |
| | Annapolis Ville & Crisp Road | Annapolis County | 5,15 | 0,00 | 0,00 | 0 | F | **actuellement fermé** |
| | Annapolis Ville & Graywood | Annapolis County | 7,32 | 0,00 | 0,00 | 0 | F | **actuellement fermé** |
| | Lunenburg 1 | Whynotts Settlement | 7,03 | 0,00 | 0,00 | | F | **actuellement fermé** |

**Tableau 5 b** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de rebuts municipaux (cont.)**

| Province | Nom de l'usine | Ville | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|---|---|
| | Shelburne | West Green Harbour | 1,03 | 0,00 | 0,00 | 0 | F | **actuellement fermé** |
| | Cumberland Ville | Spencers island | 0,14 | | 0,00 | 0 | F | **actuellement fermé** |
| | Lunenburg 2 | Whynotts Settlement | 13,20 | | 0,00 | 0 | F | **actuellement fermé** |
| | Municipal District of St-Mary's County | Guysborough | 0,94 | | 0,00 | 0 | F | **actuellement fermé** |
| | **Sous-total pour la Nouvelle Ecosse** | | **40,11** | **0,01** | **0,01** | | | |
| *Ontario* | Hamilton-Wentworth Solid waste | Hamilton | 4,00 | 4,00 | 1,93 | 1725 | T '99 | SPC |
| | Peel resource Recovery Enc, | Brampton | 0,29 | 0,22 | 0,11 | 150 | T '98 | SPC |
| | Victoria Hospital | London | 0,09 | 0,09 | 0,09 | | T | SPC |
| | General Motors | Oshawa | 0,01 | 0,01 | 0,02 | 68 | T '97 | SPC |
| | 3M Canada Ltd | London | 0,00 | 0,00 | 0,00 | | | **fermé '93** |
| | **Sous-total pour l'Ontario** | | **4,40** | **4,32** | **2,15** | | | |
| *Ile du Prince Edouard* | PEI EFW Facility | Parkdale | 0,62 | 0,62 | 0,09 | **25** | T '98 | |
| | **Sous-total pour IPE** | | **0,62** | **0,62** | **0,09** | | | |
| *Québec* | Régie intermunicipale de gestion des déchets | ***Levis*** | 61,80 | 61,80 | 0,001 | **3** | T '99 | ***amélioration complétée*** |
| | MRC des iles de la Madelaine | Iles de la Madelaine | 1,72 | 1,72 | 0,00 | | F | |
| | Communauté urbaine de Québec | Québec | 0,02 | 0,02 | 0,02 | **24** | T '94 | |
| | Communauté urbaine de Montréal | Montréal | 12,00 | 0,00 | 0,00 | 0 | T | **fermé '93** |
| | **Sous-total pour le Québec** | | **75,54** | **63,54** | **0,02** | | | |
| *Saskatchewan* | Watrous Union Hospital | | 0,14 | 0,14 | 0,14 | 126000 | F | déchets médicaux/municipaux |
| | Kamsack Union Hospital | | 0,10 | 0,10 | 0,10 | 126000 | F | déchets médicaux/municipaux |
| | Canora Union Hospital | | 0,02 | 0,02 | 0,02 | 126000 | F | déchets médicaux/municipaux |
| | **Sous-total pour le Saskatchewan** | | **0,26** | **0,26** | **0,26** | | | |

**Tableau 5 b** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de rebuts municipaux (cont.)**

| Province | PCDDs/PCDFs (g FETI/a) '90 | '97 | '99 | Conc. | T/F | Commentaires pg/m$^3$ |
|---|---|---|---|---|---|---|
| **Total pour le Canada** | **143** | **83** | **9** | | | |
| ** Facteur pour les incinérateurs fédéraux a augmenté* | | | ***NdD*** | **32** | | |

***SPC approuvé en 2000*** ***SPC = 80 pg/m$^3$***

**Tableau 5 c** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de déchets dangereux**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Alberta* | Special Waste Treatment (C.E. Raymond) | Swan Hills | 0,5 | 0,5 | 0,0 | | T | **fermé indéfiniment fév. '98** |
| | Special Waste Treatment (F.B. Davis) | Swan Hills | | 0,0 | 0,0 | 389 | T | test en '99 |
| | **Sous-total pour l'Alberta** | | **0,5** | **0,5** | **0,0** | | | |
| *Ontario* | Ontario Hydro | Tiverton | 6,8 | 6,8 | 6,8 | 177000 | T | **rejet révisé en 2000, de 0,5 g FET/a** |
| | Safetykleen (préc. Laidlaw Env. Services) | Corruna | 0,6 | 0,6 | 0,6 | 770 | T | |
| | Garey Stacey | Grafton | 0,0 | 0,0 | 0,0 | 170 | | |
| | Material Resource Recovery | Cornwall | 0,0 | 0,0 | 0,0 | 23 | | |
| | **Sous-total pour l'Ontario** | | **7,4** | **7,4** | **7,4** | | | |
| *Québec* | Laidlaw Env. Services | Mercier | 0,9 | 0,0 | 0,0 | 65 | T | test en '95 |
| | Bennett | St-Ambroise | 0,0 | 0,0 | 0,0 | 42 | | |
| | **Sous-total pour le Québec** | | **0,9** | **0,0** | **0,0** | | | |
| | **Total pour le Canada** | | **9** | **8** | **7** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***SPC approuvé en2000*** ***SPC = 80 pg/m³***

**Tableau 5 d** **Rejets atmosphériques de PCDDs/PCDFs des incinérateurs de boue municipale**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FETIa)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Ontario* | Corp. City of London | London | 0,09 | 0,09 | 0,00 | 16 | T | |
| | Main Treatment Plant (Ashbridge's Bay) | Toronto | 0,07 | 0,07 | 0,06 | 87 | T | fermeture cédulée pour 31/12/00 |
| | Lakeview Wastewater (Peel) | Mississauga | 0,04 | 0,04 | 0,00 | 2 | T | |
| | Duffin Creek | Pickering | 0,03 | 0,03 | 0,00 | 23 | T | |
| | Highland Creek Sewage Treatment Plant | Scarborough | 0,02 | 0,02 | 0,02 | 93 | T | |
| | Woodward Ave. Wastewater Treatment Plant | Hamilton | 0,02 | 0,00 | 0,00 | | F | **fermé en '96** |
| | **Sous-total pour l'Ontario** | | **0,26** | **0,24** | **0,08** | | | |
| *Québec* | Centre d'épuration de la rive sud | Longueuil | 0,01 | 0,01 | 0,01 | 127 | F | |
| | CUM station d'épuration des eaux usées | Montréal | 0,01 | 0,01 | 0,02 | 42 | F | |
| | **Sous-total pour le Québec** | | **0,02** | **0,02** | **0,03** | | | |
| *Saskatchewan* | J.C. Oliver Pollution Control Center | Prince Albert | 0,00 | 0,00 | 0,00 | 0 | F | **fermé en '98** |
| | **Sous-total pour le Saskatchewan** | | **0,00** | **0,00** | **0,00** | | | |
| | **Total pour le Canada** | | ***0,3*** | ***0,3*** | ***0,1*** | | | |
| ***SPC approuvé en 2000*** | | | | | ***NdD*** | ***32*** | | ***SPC = 80 pg/m³*** |

**Tableau 6** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production de l'acier par le processus de fourneaux à arc électriques**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc.* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99*[1] | *pg/m³* | | |
| *Alberta* | Atlasteel Ltd. | Edmonton | 0,35 | 0,60 | 0,67 | 260 | F | |
| | Western Steel Ltd. | Calgary | 0,29 | 0,00 | 0,00 | | F | **fermé** |
| | **Sous-total pour l'Alberta** | | **0,64** | **0,60** | **0,67** | | | |
| *Manitoba* | Gerdau MRM | Selkirk | 0,54 | 0,62 | 0,63 | 260 | F | |
| | **Sous-total pour le Manitoba** | | **0,54** | **0,62** | **0,63** | | | |
| *Nouvelle Ecosse* | Sydney Steel Corporation | Sydney | 0,50 | 0,20 | 0,40 | 100 | F | |
| | **Sous-total pour la Nouvelle Ecosse** | | **0,50** | **0,20** | **0,40** | | | |
| *Ontario* | Dofasco Inc. | Hamilton | 0,00 | 1,20 | 0,5 | 50 | **T'99** | nouveaux chiffres basés sur des résultats d'analyses |
| | Ivaco Inc. | L'Orignal | 0,78 | 0,88 | 0,92 | 260 | F | |
| | Slater Steel, Hamilton Specialty Bar | Hamilton | 0,62 | 0,74 | 0,82 | 260 | F | |
| | Co-steel Inc. (LASCO) | Whitby | 1,62 | 0,70 | 0,79 | 100 | F | |
| | Gerdau Courtice Steel | Cambridge | 0,50 | 0,54 | 0,66 | 260 | F | |
| | Atlas Specialty Steel | Welland | 0,30 | 0,16 | 0,49 | 260 | F | |
| | **Sous-total pour l'Ontario** | | **3,82** | **4,22** | **4,18** | | | |
| *Québec* | Sidbec-Dosco | Contrecoeur | 1,62 | 1,95 | 3,69 | 260 | F | |
| | Stelco-Master Ltee. | Contrecoeur | 0,78 | 1,08 | 1,13 | 260 | F | |
| | Atlas Stainless Steel | Tracy | 0,14 | 0,16 | 0,27 | 260 | F | |
| | **Sous-total pour le Québec** | | **2,54** | **3,19** | **5,09** | | | |
| *Saskatchewan* | IPSCO Inc. | Regina | 1,01 | 1,41 | 1,13 | 276[2]<br>62[3] | **T'99** | rejets révisés basé sur les résultats d'analyse |
| | **Sous-total pour la Saskatchewan** | | **1,01** | **1,41** | **1,13** | | | |
| | **Total pour le Canada** | | **9,1** | **10,2** | **12,1** | **32** | ***NdD*** | |
| | | | | | | | | ***SPC cédulé pour 2001*** |

[1] Estimé des rejets pour 1999 sont basés sur une production estimée de 1998
[2] Cheminée du filtre à manche du procédé
[3] Cheminée du filtre à manche "Wheelabrator"

## Tableau 7 — Rejets atmosphériques de PCDDs/PCDFs provenant du diesel - trafique

| Province | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|
| Alberta | 1,4 | 1,4 | 1,4 | | F | |
| Colombie Britannique | 0,8 | 0,8 | 0,8 | | F | |
| Manitoba | 0,33 | 0,33 | 0,33 | | F | |
| Nouveau Brunswick | 0,27 | 0,27 | 0,27 | | F | |
| Terreneuve | 0,17 | 0,17 | 0,17 | | F | |
| Territoires du Nordouest | 0,01 | 0,01 | 0,01 | | F | |
| Nouvelle Ecosse | 0,31 | 0,31 | 0,31 | | F | |
| Ontario | 3,10 | 3,10 | 3,10 | | F | |
| Ile du Prince Edouard | 0,05 | 0,05 | 0,05 | | F | |
| Québec | 1,99 | 1,99 | 1,99 | | F | |
| Saskatchewan | 0,37 | 0,37 | 0,37 | | F | |
| Yukon | 0,05 | 0,05 | 0,05 | | F | |
| Nunavut | | | | | | |
| **Total pour le Canada** | **8,9** | **8,9** | **8,9** | | | |
| | | | ***NdD*** | ***32*** | | |

***pas de changements par rapport à jan.'99***

**Tableau 8 Rejets atmosphériques de PCDDs/PCDFs provenant de la combustion des déchets dans des barrils**

| *Province* | *PCDDs/PCDFs (g FET/a)* | | | *Conc.* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|
| | *'90* | *'97* | *'99* | *pg/m³* | | |
| *Alberta* | 0,77 | 0,77 | 0,77 | | F | |
| *Colombie Britannique* | 0,93 | 0,93 | 0,93 | | F | |
| *Manitoba* | 0,38 | 0,38 | 0,38 | | F | |
| *Nouveau Brunswick* | 0,43 | 0,43 | 0,43 | | F | |
| *Terreneuve* | 0,28 | 0,28 | 0,28 | | F | |
| *Territoires du Nordouest* | 0,03 | 0,03 | 0,03 | | F | |
| *Nouvelle Ecosse* | 0,47 | 0,47 | 0,47 | | F | |
| *Ontario* | 2,28 | 2,28 | 2,28 | | F | |
| *Ile du Prince Edouard* | 0,08 | 0,08 | 0,08 | | F | |
| *Québec* | 2,46 | 2,46 | 2,46 | | F | |
| *Saskatchewan* | 0,46 | 0,46 | 0,46 | | F | |
| *Yukon* | 0,01 | 0,01 | 0,01 | | F | |
| *Nunavut* | | | | | | |
| **Total pour le Canada** | **8,58** | **8,58** | **8,58** | | | le facteur utilisé est la moyenne de ceux utilisés par EPA et NOAA |
| | | | ***NdD*** | ***32*** | | |

**ces chiffres pourraient encore varier après consultation**

Secteur pas inclus au paravent dans l'inventaire

**Tableau 9** — **Rejets de PCDDs/PCDFs provenant de la combustion du bois salé**

| | | *à l'air* | | | | | | *dans les cendres* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Usine* | *Ville* | *g FET/a* | | | *Conc.* | *T/F* | *Commentaires* | *g FET/a* | | | *Conc.* | *Commentaires* |
| | | *'90* | *'97* | *'99* | *pg/m³* | | | *'90* | *'97* | *'99* | *pg/g* | *Status du site d'enfouissement* |
| FCCL | Elk Falls | 3,90 | 3,90 | 3,60 | 1400 | T | | 57,5 | 57,5 | 57,5 | 150 | étanche & collecte de solution de lessivage |
| FCCL | Crofton | 2,64 | 2,64 | 2,64 | 800 | T | | 5,5 | 5,5 | 5,5 | | étanche & collecte de solution de lessivage |
| Pacifica Papers [M&B] | Powell River | 1,80 | 1,80 | 0,23 | 57 | T [99] | lit fluidisé remplace 2 vieilles bouilloires | 5,2 | 5,2 | 3,3 | 300 | étanche & collecte de solution de lessivage |
| Howe Sound P&P | Pt. Mellon | 0,58 | 0,58 | 0,80 | 210 | T | | 12,7 | 12,7 | 12,7 | 960 | quelque collection |
| Bowater (Avenor) | Gold River | 0,40 | 0,40 | 0,00 | 253 | T | | 2,9 | 2,9 | 0 | | **fermé en '98** |
| Harmac Pacific | | 0,37 | 0,37 | 0,09 | 47 | T ['99] | 2 bouilloires fermées + améliorations | 34,6 | 34,6 | 7,85 | 1500 | site d'enfouissement ? |
| Western Pulp | Pt. Alice | 0,25 | 0,25 | 0,30 | 144 | T | | 0,37 | 0,37 | 0,37 | | étanche & collecte de solution de lessivage 2001 |
| Western Pulp | Squamish | 0,24 | 0,24 | 0,20 | 188 | T | | 4 | 4 | 4 | | Sealed & leachate collection |
| Skeena Cellulose | Prence Rupert | 0,20 | 0,20 | 0,00 | | T | | 0,025 | 0,025 | 0,03 | 10 | site d'enfouissement ? |
| Pacifica papers [M&B] | Port Alberni | 0,10 | 0,10 | 0,10 | 36 | T | | 14,4 | 14,4 | 14,4 | 1900 | site d'enfouissement ? |
| Eurocan | Kitimat | 0,00 | 0,00 | 0,00 | | F | | | | | | |
| **Sous total pour la Colombie Britannique** | | **10,5** | **10,5** | **8,0** | | | | **137** | **137** | **105** | | |
| **Total pour le Canada** | | **10,5** | **10,5** | **8,0** | | | | **137** | **137** | **105** | | |
| | | | | ***NdD*** | ***32*** | | | | | | | |
| ***SPC en 2000*** | ***SPC = 100 pg/m³ pour nouvelles usines & SPC = 500 pg/m³ pour usines en marche*** | | | | | | | (étude entreprise pour déterminer la lexivité provenant des sites d'enfouissement) | | | | |

***Note: Réductions apparaissant pour '99 sont dues à des améliorations entreprises par l'industrie***

**Tableau 10** **Rejets atmosphériques de PCDDs/PCDFs provenant de la combustion (résidentielle/ agricole)**

| *Province* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|
| | *'90* | *'97* | *'99* | | | |
| *Alberta* | 4,4 | 4,4 | 4,4 | | F | |
| *Colombie Britannique* | 0,02 | 0,02 | 0,02 | | F | |
| *Manitoba* | 0,00 | 0,00 | 0,00 | | F | |
| *Nouveau Brunswick* | 0,03 | 0,03 | 0,03 | | F | |
| *Terreneuve* | 0,02 | 0,02 | 0,02 | | F | |
| *Territoires du Nordouest* | 0,00 | 0,00 | 0,00 | | F | |
| *Nouvelle Ecosse* | 2,2 | 2,2 | 2,2 | | F | |
| *Ontario* | 0,11 | 0,11 | 0,11 | | F | |
| *Ile du Prince Edouard* | 0,01 | 0,01 | 0,01 | | F | |
| *Québec* | 0,19 | 0,19 | 0,19 | | F | |
| *Saskatchewan* | 0,00 | 0,00 | 0,00 | | F | |
| *Yukon* | 0,00 | 0,00 | 0,00 | | F | |
| *Nunavut* | | | | | | |
| **Total pour le Canada** | **7** | **7** | **7** | | | |
| | | | ***NdD*** | ***32*** | | |

***Pas de changements par rapport à jan. '99***

**Tableau 11** **Rejets atmosphériques de PCDDs/PCDFs provenant du frittage du fer**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Ontario* | Algoma Steel | Wawa | 19,4 | 19,4 | 0,0 | 5600 | T | **usine fermée en 98/6** |
| | Stelco | Hamilton | 6,0 | 6,0 | 6,0 | 2700 | T'98 | résultats d'analyses[soumises en '99] plus basses qu'estimées au paravent 23,5 g FET/a |
| | **Sous-total pour l'Ontario** | | **25,4** | **25,4** | **6,0** | | | |
| | **Total pour le Canada** | | **25,4** | **25,4** | **6,0** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***SPC cédulé pour 2001***

**Tableau 12** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production d'électricité**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FETla)* | | | *Conc. pg/m³* | *TIF* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Alberta* | Alberta Power | Battle River | 0,27 | 0,27 | 0,27 | | F | Facteurs EPA |
| | Alberta Power | H.R. Milner | 0,04 | 0,04 | 0,04 | | F | Facteurs EPA |
| | Alberta Power | Sheerness | 0,07 | 0,15 | 0,15 | | F | Facteurs EPA |
| | EPCOR | Genesee | 0,03 | 0,06 | 0,06 | 5 | F | EPRI |
| | TransAlta | Keephills | | 0,31 | 0,31 | 12 | F | Facteurs EPA |
| | TransAlta | Sundance | | 0,81 | 0,81 | 12 | F | Facteurs EPA |
| | TransAlta | Wabamun | | 0,24 | 0,24 | 12 | F | Facteurs EPA |
| | **Sous-total pour l'Alberta** | | **0,41** | **1,87** | **1,87** | | | |
| *Manitoba* | Manitoba Hydro | Brandon | 0,02 | 0,01 | 0,01 | | F | Facteurs de EPA |
| | Manitoba Hydro | Selkirk | 0,00 | 0,01 | 0,01 | | F | Facteurs de EPA, unité d'attente |
| | **Sous-total pour le Manitoba** | | **0,03** | **0,02** | **0,02** | | | |
| *Nouveau Brunswick* | NB Power | Belledune | 0,10 | 0,10 | 0,10 | | F | Rejets calculés par EC |
| | NB Power | Coleson Cove | 0,12 | 0,12 | 0,12 | | F | Rejets calculés par EC |
| | NB Power | Courtney Bay | 0,02 | 0,02 | 0,02 | | F | Rejets calculés par EC |
| | NB Power | Dalhousie | 0,11 | 0,11 | 0,11 | | F | Rejets calculés par EC |
| | NB Power | Grand Lake | 0,01 | 0,01 | 0,01 | | F | Rejets calculés par EC |
| | **Sous-total pour le Nouveau Brunswick** | | **0,36** | **0,36** | **0,36** | | | |
| *Nouvelle Ecosse* | NS Power | Lingan | 0,30 | 0,30 | 0,30 | 25 | F | EPA; pas chang. 90 & 95 |
| | NS Power | Point Aconi | 0,02 | 0,02 | 0,02 | 6 | T | EPA; pas chang. 90 & 95 |
| | NS Power | Point Tupper | 0,08 | 0,08 | 0,08 | 22 | F | EPA; pas chang. 90 & 95 |
| | NS Power | Trenton | 0,16 | 0,16 | 0,16 | 27 | F | EPA; pas chang. 90 & 95 |
| | NS Power | Tufts Cove | 0,19 | 0,19 | 0,19 | 30 | F | EPA; pas chang. 90 & 95 |
| | **Sous-total pour la Nouvelle Ecosse** | | **0,75** | **0,75** | **0,75** | | | |

**Tableau 12** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production de l'électricité (cont.)**

| Province | Nom de l'usine | Ville | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|---|---|
| Ontario | Ontario Hydro | Atikokan | 0,07 | 0,04 | 0,04 | | F | Facteurs EPRI |
| | Ontario Hydro | Lakeview | 0,16 | 0,05 | 0,05 | | T | |
| | Ontario Hydro | Lambton | 0,18 | 0,16 | 0,16 | | TF | Facteurs EPRI |
| | Ontario Hydro | Lennox | 0,30 | 0,03 | 0,03 | | T | |
| | Ontario Hydro | Nanticoke | 0,02 | 0,01 | 0,01 | | T | |
| | Ontario Hydro | Thunder Bay | 0,40 | 0,40 | 0,40 | | T | |
| | **Sous-total pour l'Ontario** | | **1,13** | **0,69** | **0,69** | | | |
| Saskatchewan | Sask Power | Boundary Dam | 0,39 | 0,39 | 0,39 | | F | |
| | Sask Power | Poplar River | 0,34 | 0,34 | 0,34 | | F | |
| | Sask Power | Queen Elizabeth | | 0,01 | 0,01 | | F | gaz naturel à l'avenir |
| | Sask Power | Shand | | 0,13 | 0,13 | | F | |
| | **Sous-total pour le Saskatchewan** | | **0,73** | **0,87** | **0,87** | | | |
| | **Total pour le Canada** | | **3** | **5** | **5** | | | |
| | | | | ***NdD*** | ***32*** | | | |

***Pas de changement par rapport à jan. '99***

**Tableau 13 Rejets atmosphériques de PCDDs/PCDFs provenant de la combustion résidentielle du bois**

| Province | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|
| Alberta | 0,13 | 0,13 | 0,13 | | F | |
| Colombie Britannique | 0,3 | 0,3 | 0,3 | | F | |
| Manitoba | 0,07 | 0,07 | 0,07 | | F | |
| Nouveau Brunswick | 0,33 | 0,33 | 0,33 | | F | |
| Terreneuve | 0,19 | 0,19 | 0,19 | | F | |
| Territoires du Nordouest | 0,01 | 0,01 | 0,01 | | F | |
| Nouvelle Ecosse | 0,25 | 0,25 | 0,25 | | F | |
| Ontario | 0,84 | 0,84 | 0,84 | | F | |
| Ile du Prince Edouard | 0,06 | 0,06 | 0,06 | | F | |
| Québec | 1,07 | 1,07 | 1,07 | | F | |
| Saskatchewan | 0,04 | 0,04 | 0,04 | | F | |
| Yukon | 0,00 | 0,00 | 0,00 | | F | |
| Nunavut | | | | | | |
| **Total pour le Canada** | **3,3** | **3,3** | **3,3** | | | |
| | | | ***NdD*** | ***32*** | | ***SPC cédulé pour 2001*** |

***Les rejets totaux provenant de ce secteur ont baissé de 36 g FET/a basé sur une nouvelle information quant à la quantité de bois brûlée en Ontario et au Québec. Des analyses sur les fournaises conventionnelles et nouvelles peuvent encore diminuer ce nouveau total***

## *Tableau 14* — *Rejets atmosphériques PCDDs/PCDFs provenant du secteur de la fusion de métaux communs*

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Ontario* | Falconbridge | Sudbury | 2,90 | 2,90 | 2,90 | 500 | T '99 | La compagnie a soumi des résultats d'analyses; information nouvelle ici |
| | Falconbridge | Timmins | | | | | | info non-disponible |
| | Inco | Sudbury | | | | | | info non-disponible |
| | Timinco | Haley | | | | | | info non-disponible |
| | **Sous-total pour l'Ontario** | | **2,90** | **2,90** | **2,90** | | | |
| *Manitoba* | Hudson Bay Mining and Smelting | Flin Flon | | | | | | info non-disponible |
| | Inco Ltd. | Thompson | | | | | | info non-disponible |
| | **Sous-total pour le Manitoba** | | | | | | | |
| *Québec* | Noranda | Horn | 0,10 | 0,10 | 0,10 | < D.L.. | T | |
| | **Sous-total pour le Québec** | | **0,10** | **0,10** | **0,10** | | | |
| | **Total pour le Canada** | | **3,0** | **3,0** | **3,0** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***Info pour ce secteur a été révisée, voir item (1) ci-haut***

**Tableau 15** — ***Rejets atmosphériques de PCDDs/PCDFs provenant des fours à ciment***

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc.* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | *pg/m³* | | |
| *Alberta* | Lafarge Canada Inc. | Exshaw | 0,65 | 0,65 | 0,65 | 548 | T | Analyse '98 |
| | Inland Cement | Edmonton | 0,14 | 0,14 | 0,14 | 36 | T | Analyse '90 & '98 |
| | Lafarge Canada Inc. | Exshaw | 0,02 | 0,02 | 0,02 | 5 | T | Analyse '98 |
| | **Sous-total pour l'Alberta** | | **0,80** | **0,80** | **0,80** | | | |
| *Colombie Britannique* | Lafarge Canada Inc. | Richmond (2) | 0,34 | 0,34 | 0,34 | 170 | T/F | |
| | Lafarge Canada Inc. | Kamloops | 0,03 | 0,03 | 0,03 | 58 | F | |
| | Tilbury Cement Ltd*[1] | Delta | | 0,02 | 0,02 | 5 | T | commencé en '91, analyse '96 |
| | **Sous-total pour la Colombie Britannique** | | **0,37** | **0,39** | **0,39** | | | |
| *Terreneuve* | North Star Cement Ltd, | Corner Brook | 0,03 | 0,03 | 0,03 | 70 | F | |
| | **Sous-total pour la Terreneuve** | | **0,03** | **0,03** | **0,03** | | | |
| *Nouvelle Ecosse* | Lafarge Canada Inc,* | Brookfield | 0,04 | 0,04 | 0,04 | 50 | F | |
| | **Sous-total pour la Nouvelle Ecosse** | | **0,04** | **0,04** | **0,04** | | | |
| *Ontario* | Blue Circle Canada | Bowmanville | | 0,26 | 0,26 | 70 | F | commencé l'opération en 91 |
| | St-Lawrence Cement* | Mississauga | 0,20 | 0,20 | 0,20 | 158 | T | Analyse '97 |
| | Essroc Canada Inc, | Picton (2) | 0,10 | 0,10 | 0,10 | 40 | T | Analyse '97 |
| | Lafarge Canada Inc, | Woodstock (2) | 0,10 | 0,10 | 0,10 | 44 | F | |
| | Essroc Canada Inc, | Picton | 0,05 | 0,05 | 0,05 | 57 | F | |
| | Federal White Cement Ltd, | Woodstock | 0,03 | 0,03 | 0,03 | | F | |
| | Blue Circle Canada | St-Mary's | 0,02 | 0,02 | 0,02 | 12 | T | Analyse '97 |
| | Lafarge Canada Inc, | Bath | 0,02 | 0,02 | 0,02 | 8 | T | Analyse '96 |
| | **Sous-total pour l'Ontario** | | **0,51** | **0,78** | **0,78** | | | |
| *Québec* | St-Lawrence Cement* | Jolliette (4) | 0,71 | 0,71 | 0,71 | 240 | T,F | Analyse '93 |
| | Lafarge Canada Inc, | St-Constant | 0,04 | 0,04 | 0,04 | 25 | F | |
| | Lafarge Canada Inc,* | St-Constant | 0,04 | 0,04 | 0,04 | 25 | T | |
| | Ciment Québec* | St-Basile | 0,02 | 0,02 | 0,02 | 11 | T | Analyse '96 |
| | St-Lawrence Ciment* | Beauport (2) | 0,00 | 0,00 | 0,00 | | T | **fermée '96** |
| | **Sous-total pour le Québec** | | **0,80** | **0,80** | **0,80** | ***32*** | ***NdD*** | |
| | **Total pour le Canada** | | **3** | **3** | **3** | | | |

***(le nombre) signifie le nombre de fours*** — ***pas de changements par rapport à `99***

[1] * : usines qui brûlent des combustibles différents

**Tableau 16** — **Rejets de PCDDs/PCDFs provenant des pôles électriques**

| Province | en-service | | | | | | | | hors-service | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | à l'air | | | | | au sol | | | dans bois enfui | | |
| | PCDDs/PCDFs (g FET/a) | | | Conc. | T/F | PCDDs/PCDFs (g FET/a) | | | PCDDs/PCDFs (g FET/a) | | |
| | '90 | '97 | '99 | pg/m3 | | '90 | '97 | '99 | '90 | '97 | '99 |
| Alberta | 0,2 | 0,2 | 0,2 | | F | 0,93 | 0,93 | 0,93 | 4 | 4 | 4 |
| Colombie Britannique | 0,2 | 0,2 | 0,2 | | F | 0,93 | 0,93 | 0,93 | 4 | 4 | 4 |
| Manitoba | 0,1 | 0,1 | 0,1 | | F | 0,46 | 0,46 | 0,46 | 2 | 2 | 2 |
| Nouveau Brunswick | 0,1 | 0,1 | 0,1 | | F | 0,46 | 0,46 | 0,46 | 2 | 2 | 2 |
| Terreneuve | 0,0 | 0,0 | 0,0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Territoires du Nordouest | 0,0 | 0,0 | 0,0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Nouvelle Ecosse | 0,1 | 0,1 | 0,1 | | F | 0,46 | 0,46 | 0,46 | 2 | 2 | 2 |
| Ontario | 0,7 | 0,7 | 0,7 | | F | 3,3 | 3,3 | 3,3 | 13 | 13 | 13 |
| Ile du Prince Edouard | 0,0 | 0,0 | 0,0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Québec | 0,5 | 0,5 | 0,5 | | F | 2,3 | 2,3 | 2,3 | 7 | 7 | 7 |
| Saskatchewan | 0,1 | 0,1 | 0,1 | | F | 0,46 | 0,46 | 0,46 | 2 | 2 | 2 |
| Yukon | 0,0 | 0,0 | 0,0 | | F | 0 | 0 | 0 | 0 | 0 | 0 |
| Nunavut | | | | | | | | | | | |
| **Total pour le Canada** | **2** | **2** | **2** | | | **9,3** | **9,3** | **9,3** | **36** | **36** | **36** |
| | | | **NdD** | **32** | | ***Révisions demandées par le groupe Penta, en ligne avec les révisions du Rapport Options Stratégiques*** | | | | | |

**Tableau 17** **Rejets de PCDDs/PCDFs provenant des usines de préservation du bois (g FET/a)**

| Province | à l'air | | | Conc. | T/F | au sol | | |
|---|---|---|---|---|---|---|---|---|
| | '90 | '97 | '99 | pg/m$^3$ | | '90 | '97 | '99 |
| Alberta | 0,2 | 0,2 | 0,2 | | F | 0,2 | 0,2 | 0,2 |
| Colombie Britannique | 0,2 | 0,2 | 0,2 | | F | 0,2 | 0,2 | 0,2 |
| Manitoba | 0,0 | 0,0 | 0,0 | | F | 0,0 | 0,0 | 0,0 |
| Nouveau Brunswick | 0,1 | 0,1 | 0,1 | | F | 0,1 | 0,1 | 0,1 |
| Terreneuved | 0,0 | 0,0 | 0,0 | | F | 0,0 | 0,0 | 0,0 |
| Territoires du Nordouest | 0,0 | 0,0 | 0,0 | | F | 0,0 | 0,0 | 0,0 |
| Nouvelle Ecosse | 0,1 | 0,1 | 0,1 | | F | 0,1 | 0,1 | 0,1 |
| Ontario | 0,7 | 0,7 | 0,7 | | F | 0,7 | 0,7 | 0,7 |
| Ile du Prince Edouard | 0,0 | 0,0 | 0,0 | | F | 0,0 | 0,0 | 0,0 |
| Québec | 0,5 | 0,5 | 0,5 | | F | 0,5 | 0,5 | 0,5 |
| Saskatchewan | 0,1 | 0,1 | 0,1 | | F | 0,1 | 0,1 | 0,1 |
| Yukon | 0,0 | 0,0 | 0,0 | | F | 0,0 | 0,0 | 0,0 |
| Nunavut | | | | | | | | |
| **Total pour le Canada** | **1,8** | **1,8** | **1,8** | | | **1,8** | **1,8** | **1,8** |
| | | | ***NdD*** | ***32*** | | | | |

***pas de changements par rapport à `99***

**Tableau 18** **Rejets atmosphériques de PCDDs/PCDFs provenant de la combustion des déchets du bois**

| *Province* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|
| | *'90* | *'97* | *'99* | | | |
| *Alberta* | 0,08 | 0,08 | 0,08 | | F | |
| *Colombie Britannique* | 0,31 | 0,31 | 0,31 | | F | |
| *Manitoba* | 0,01 | 0,01 | 0,01 | | F | |
| *Nouveau Brunswick* | 0,14 | 0,14 | 0,14 | | F | |
| *Terreneuve* | 0,06 | 0,06 | 0,06 | | F | |
| *Territoires du Nordouest* | 0,00 | 0,00 | 0,00 | | F | |
| *Nouvelle Ecosse* | 0,08 | 0,08 | 0,08 | | F | |
| *Ontario* | 0,2 | 0,2 | 0,2 | | F | |
| *Ile du Prince Edouard* | 0,01 | 0,01 | 0,01 | | F | |
| *Québec* | 0,34 | 0,34 | 0,34 | | F | |
| *Saskatchewan* | 0,02 | 0,02 | 0,02 | | F | |
| *Yukon* | 0,00 | 0,00 | 0,00 | | F | |
| *Nunavut* | | | | | | |
| **Total pour le Canada** | **1,3** | **1,3** | **1,3** | | | |
| | | | ***NdD*** | ***32*** | | |

***le total a été réduit de 4,5 g FET; la consommation du bois a été révisée***

**Tableau 19** **Rejets atmosphériques de PCDDs/PCDFs provenant des bouilloires Kraft**

| *Province* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|
| | *'90* | *'97* | *'99* | | | |
| *Alberta* | 0,06 | 0,06 | 0,06 | ~ 6 | F | |
| *Colombie Britannique* | 0,12 | 0,12 | 0,12 | ~ 6 | F | |
| *Manitoba* | 0,01 | 0,01 | 0,01 | ~ 6 | F | |
| *Nouveau Brunswick* | 0,10 | 0,10 | 0,10 | ~ 6 | F | |
| *Terreneuve* | 0,01 | 0,01 | 0,01 | ~ 6 | F | |
| *Territoires du Nordouest* | 0 | 0 | 0 | | F | |
| *Nouvelle Ecosse* | 0,04 | 0,04 | 0,04 | ~ 6 | F | |
| *Ontario* | 0,07 | 0,07 | 0,07 | ~ 6 | F | |
| *Ile du Prince Edouard* | 0 | 0 | 0 | | F | |
| *Québec* | 0,15 | 0,15 | 0,15 | ~ 6 | F | |
| *Saskatchewan* | 0,01 | 0,01 | 0,01 | ~ 6 | F | |
| *Yukon* | 0 | 0 | 0 | | F | |
| *Nunavut* | 0 | 0 | 0 | | | |
| **Total pour le Canada** | **0,6** | **0,6** | **0,6** | | | |
| | | | ***NdD*** | ***32*** | | |

## Tableau 20 Rejets atmosphériques de PCDDs/PCDFs provenant des fonderies d'acier

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* '90 | '97 | '99 | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| *Colombie Britannique* | ESCO Ltd. | Port Coquitlan | 0,01 | 0,01 | 0,01 | | F | |
| | **Sous-total la Colombie Britannique** | | **0,01** | **0,01** | **0,01** | | | |
| *Ontario* | Dominion Castings Ltd, | Hamilton | 0,07 | 0,08 | 0,08 | | F | |
| | ESCO Ltd, | Port Hope | 0,01 | 0,01 | 0,01 | | F | |
| | **Sous-total l'Ontario** | | **0,08** | **0,09** | **0,09** | | | |
| *Québec* | Canadian Steel Wheel | Montréal | 0,24 | 0,26 | 0,26 | | F | |
| | Slater Industries Ltd, | Sorel | 0,09 | 0,10 | 0,10 | | F | |
| | **Sous-total le Québec** | | **0,33** | **0,36** | **0,36** | | | |
| | **Total pour le Canada** | | **0,4** | **0,5** | **0,5** | | | |
| | | | | ***NdD*** | ***32*** | | | |

***Pas de changements par rapport à jan. '99***

**Tableau 21** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production du magnésium**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc, pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Québec* | Norsk Hydro | Becancour | 0,27 | 0,27 | 0,27 | | T | |
| | Magnola | Danville | 0,00 | 0,00 | 0,00 | 100 -500 | | production commence en 2000 (0,09 gTEQ/y) |
| | **Sous-total pour le Québec** | | **0,27** | **0,27** | **0,27** | | | |
| | **Total pour le Canada** | | **0,3** | **0,3** | **0,3** | | | |
| | | | | | ***NdD*** | ***32*** | | |

*Ce secteur était inclus au paravent avec le secteur de la fusion des métaux communs, Tableau-14*

**Tableau 22** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production chimique**

| Province | Nom de l'usine | Ville | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|---|---|
| Alberta | Dow Chemical Canada | Ft-Saskatchewan | 1,67 | 1,67 | 0,02 | 55 | T | 12 échantillons de conformité en 1999 (11% O2) |
| | Celanese Canada | Edmonton | 0 | 0 | 0 | | | |
| | **Sous-total pour l'Alberta** | | **1,67** | **1,67** | **0,02** | | | |
| Ontario | Dow Chemical Canada | Sarnia | 0,50 | 0,00 | 0,00 | | | usine fermée en 1993 |
| | Celanese Canada | Millhaven | | | | | | Compagnie vendue |
| | DuPont Canada | Kingston | 0,00 | | 0,00 | | F | |
| | Esso Chemicals | Sarnia | | | | | | |
| | Montell Canada | Sarnia | | | | | F | |
| | PCI Chemicals, Sheridan Park | Mississauga | 0,00 | | 0,00 | | F | labo. de recherche |
| | Uniroyal Chemicals Ltd. | | | | | | | |
| | **Sous-total pour l'Ontario** | | **0,50** | **0,00** | **0,00** | | | |
| Québec | H.L. Blanchard Ltd. | Montréal | 0,00 | | | | F | |
| | Celanese Canada | Drummondville | | | 0 | | | usine fermée |
| | Kronos Canada | Varennes | | | | | | |
| | **Sous-total pour le Québec** | | **0,00** | **0,00** | **0,00** | | | |
| | **Total pour le Canada** | | **2,17** | **1,67** | **0,02** | | | |
| | | | | | ***NdD*** | ***32*** | | |

***Pas de changements par rapport à jan. '99***

**Tableau 23** **Rejets atmosphériques de PCDDs/PCDFs provenant de la seconde fusion du plomb**

| *Province* | *Nom de l'usine* | *Ville* | *PCDDs/PCDFs (g FET/a)* | | | *Conc. pg/m³* | *T/F* | *Commentaires* |
|---|---|---|---|---|---|---|---|---|
| | | | *'90* | *'97* | *'99* | | | |
| *Colombie Britannique* | Metalex | Richmond | | | | | | |
| | **Sous-total pour la Colombie Britannique** | | | | | | | |
| *Manitoba* | Canada Metals | Winnipeg | | | | | | |
| | **Sous-total pour le Manitoba** | | | | | | | |
| *Ontario* | Tonolli Canada | Mississauga | 0,03 | 0,03 | 0,03 | | F | Facteurs de US EPA: 0,92 ng TEQ/kg rebut |
| | **Sous-total pour l'Ontario** | | **0,03** | **0,03** | **0,03** | | | |
| *Québec* | Nova Pb Inc | Ste-Catherine | 0,05 | *0,05* | *0,05* | | F | Facteurs de US EPA: 0,92 ng TEQ/kg rebut |
| | **Sous-total pour le Québec** | | **0,05** | **0,05** | **0,05** | | | |
| | **Total pour le Canada** | | **0,08** | **0,08** | **0,08** | | | |
| | | | | ***NdD*** | **32** | | | |

***Pas de changements par rapport à jan. '99***

**Tableau 24** **Rejets atmosphériques de PCDDs/PCDFs provenant des raffineries de pétrole**

| Province | Nom de l'usine | Ville | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| **Total pour le Canada** | | | | | | | | |
| | | | | | ***NdD*** | ***32*** | | |

information manquante

**Tableau 25** **Rejets atmosphériques de PCDDs/PCDFs provenant de la production et fusion de l'aluminium**

| Province | Nom de l'usine | Ville | PCDDs/PCDFs (g FET/a) '90 | '97 | '99 | Conc. pg/m$^3$ | T/F | Commentaires |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| **Total pour le Canada** | | | | | | | | |
| | | | | | **NdD** | **32** | | |

information manquante

**Tableau-26** **Rejets au sol de PCDDs/PCDFs provenant de l'application des boues municipales**

| Province | Boues[1] (1000 tonnes sec/y ) | | | | boue étendue sur terre 1000t/y | g FET/a |
|---|---|---|---|---|---|---|
| | enfouies | incinérées | étendues sur terre | total | | |
| *Ontario* | 99 | 99 | 102 | 300 | 102 | 2,55 |
| *Colombie Britannique* | 5 | 1 | 75 | 81 | 75 | 1,87 |
| *Alberta* | 0 | 0 | 40 | 40 | 40 | 1 |
| *Manitoba*[2] | 0 | 0 | 25 | 25 | 25 (20) | 0,62 (0.5) |
| *Québec* | 21 | 130 | 18 | 169 | 18 | 0,46 |
| *Saskatchewan* | 1 | 0 | 15 | 16 | 15 | 0,37 |
| *Ile du Prince Edouard* | 0 | 0 | 1 | 1 | 1 | 0,03 |
| *Nouveau Brunswick* | 1 | 0 | 1 | 2 | 1 | 0,02 |
| *Nouvelle Ecosse* | 0 | 0 | 1 | 1 | 1 | 0,015 |
| *Terreneuve* | 5 | 0 | 0 | 5 | 0 | 0 |
| TOTAL | 132 | 230 | 278 | 640 | 278 | 6,95 |

| ***PCDDs/PCDFs*** | ***pg TEQ/kg sec*** | |
|---|---|---|
| *US EPA & American Forestry*[3] | *50,000* | *a été dépassée à plusieurs reprises dans l'étude canadienne* |
| ***facteur*[4] *utilisés dans les tests*** | ***25,000*** | |
| *Boues suédoises*[3] | *31,000,000* | |
| *Boues hollandaises*[3] | *22,000,000* | |
| *Critères CCME pour le sol* | *10,000* | |
| *EPA terre agricole* | *10,000* | |
| ***NdD pour rejets au sol*** | ***9,000*** | |
| | *7,000* | |
| *EPA terre pour pâturage* | *1,000* | |

***Information n'ayant pas apparut au paravent sur l'inventaire de '99***

[1] Quantité de boues sont prises d'une étude d'Environnement Canada sur le mercure
[2] Les chiffres entre parenthèses sont soumis par Environnement Manitoba
[3] Valeur maximale volontairement acceptée pour l'application des boues des pâtes et papiers
[4] Centre de technologie des eaux usées, "Polluants organiques et métalliques dans les boues et compostes canadiens"; Fev. '95